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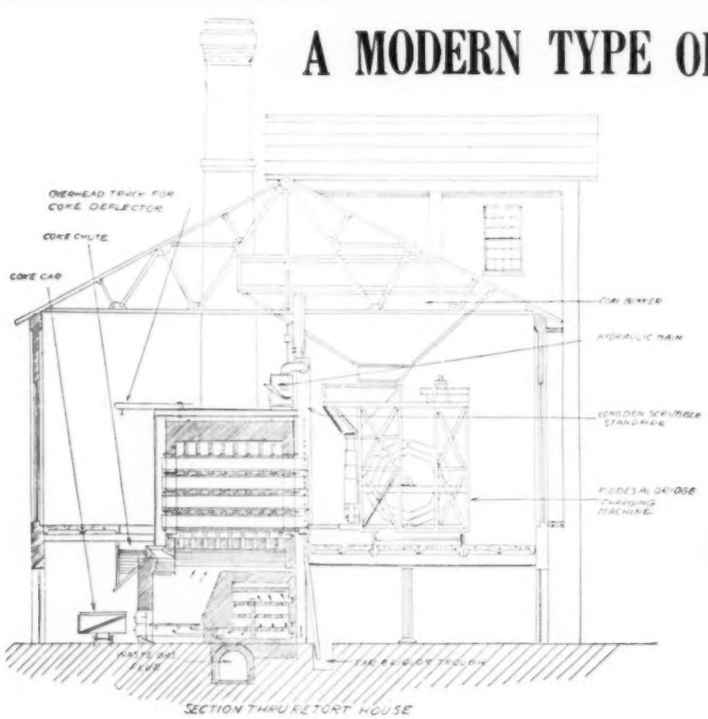

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Only Way to Fight Municipal Ownership Is by Arousing Public

Writer Tells of Failure of Movement, but Warns Against Inaction on Part of Industry

By JOHN WALTER

Some day the gas industry may have a big battle on its hands. That is, if its leaders fail to read impending signs, and take heed of them.

Municipal ownership generally is a possibility. This does not by any means imply that it is imminent or even vaguely probable. But it does mean that every gas man, everywhere, should constantly bear in mind that he may have a serious condition with which to contend. At the present time, if the gas industry remains on the alert, it has the upper hand. But will that alertness be maintained? Are not the public utilities enveloped in that frame of mind where they feel secure?

What follows may be considered a bit hypothetical, but nevertheless, I believe there is food for deep and serious thought in it.

Ask one hundred men to-day whether they believe that the public ownership of public utilities will ever come to pass; whether municipal ownership will ever take hold of the people of the United States and obtain from coast to coast, and ninety of that number will laugh at the idea. Some of them will walk away, fearing that the questioner is mad. Others will linger to tell with convincing arguments why such a condition will be a failure.

Has Failed in Scores of Cases

They will recall to memory at least a score of instances where municipal ownership has failed, and of perhaps another score of instances where it is failing to-day. And, in their confidence that private ownership has the better of the arrangement, they will pass with unseeing eyes, right by the vital point.

Debates of this nature are so futile. They are lost motion, and far from gaining anything, they engender a false atmosphere of security.

The gas industry does not want municipal ownership. Therefore it does not have to be convinced of it. The gas industry does not have to be convinced of the bad points of municipal ownership by these five-minute shallow orators. It knows them all. Why waste time with men who have not the faculty of perception?

The point is that these speeches are disarming.

Grant that municipal ownership would probably be a failure wherever it might be instituted. Grant that it is wrong in principle. It is useless to talk of those phases of the question. The big thing is to prevent the institution of municipal ownership in any part of the United States. Prevent and you won't have to cure.

The mission of the men of the gas industry, and of all other public utilities men, as a matter of fact, is not with the ninety men of the one hundred questioned, for they are what are commonly considered the average citizen. The mission is with the other ten, for of this "other ten" only three are actually sincere in their beliefs, while the remaining seven three are propagandists and four are radicals.

This is a time for real concern. The world has changed in the last few years. Of course, this has been reiterated by so many public speakers and writers that it has become very tiresome. Everyone is familiar with conditions, but that very familiarity is breeding a dangerous contempt. Knowledge of the conditions resulting from the war should be used to advantage in combating propaganda and radicalism. It should be used against the dangerous Sovietism, the doctrines of which are said to be rapidly permeating certain areas of the United States.

Propagandists Can Popularize Movement

Any movement which is permitted to develop unimpeded by opposition can gather terrific strength and impetus. Propagandists could do a great deal in a short time toward popularizing a general movement toward municipal ownership.

As an example of this, who ever believed that the United States would ever be controlled by prohibition laws? Certainly the brewing industry never did, nor did the manufacturers, importers and distributors of wines and whiskeys.

But there were those who did believe that the country would go dry, and they were not the average citizen by any means. They were not of the ninety, but of the other ten. They were of the same class that the utilities men must ferret out. It took a war for this minority to have the Volstead act and the prohibition amendment passed, but they did it. It was the culmination of years of propaganda, aided by many near fanatics. It was an example of striking at the right moment, a moment that

was watched for years. This example will not be lost sight of by the municipal ownership propagandists.

For those who still are not convinced that the prohibition laws were the wish of the minority, and not the majority of the population of the United States, let them ask this question of themselves, "Why was not the major portion of the country dry under the privilege of local option?"

I am not trying to discuss the merits of prohibition. It may be the greatest blessing that ever was bestowed upon the country. This is to show how a tenacious, one-track minority can through concentration on a project batter down institutions that are centuries old.

Men and women of the gas industry, watch for symptoms and combat them. Remember the fable of the hare and the tortoise. The tortoise in this instance can represent the vicious ten of the hundred. If the ninety-hare goes to sleep, the tortoise wins. Of course, if the race is run a second time, the hare is the victor. But why should there be a second contest?

Another example of the power of propaganda is shown in the present agitation for the "blue laws." This agitation should not be sneered at, nor dismissed as improbable, unless the public is anxious to live under a regime of strict ordinances.

Municipal Ownership Strength

New York City, in 1905, came within an inch of electing a complete municipal ownership ticket, from the mayor down. As it was, some of these candidates were placed in office. The vote was so close as to be almost a tie. Only a recount decided the victor.

It must always be borne in mind that the psychology of the general public is much on the same order as that which governs mobs. Not that the public is unintelligent. It is intelligent, except when incited by propaganda, in the same manner that speeches incite mobs. The public, a collective individual, is impressionable and emotional.

It lies within the power of the public utilities, to a great extent, to protect the public against itself. Of course, none would be facetious enough to construe this as though the large corporations should appoint themselves guardians, to look out for the public welfare. It can be worked out in other ways.

I think every one in the gas industry will agree that this is an axiom, an undisputed truth, that if everybody was satisfied with conditions there would be no such thing as agitation. If no one in the rural or urban districts of the country had any grievance against the gas industry, for example, I do not see how they would ever agree to a change from private to municipal ownership of the gas plants. It would not be logical, and certainly would be foolish.

On the other hand, when the public has a grievance it will not be quieted. Demagogues in public office will not allow it to be. They are glad to stir up the hornets' nest.

Has Public a Grievance

The question that confronts the gas industry to-day is whether or not the public has a grievance against it. If it has, is the grievance a just one, and just or injust, how can it be adjudicated?

I think no one will dispute the statement that the gas industry to-day is in the pillory of public emotion. It had better extricate itself before the insidious ten begins its nefarious work. Whether the gas companies are in the right or in the wrong does not seem to concern the public. The public wants action.

But the public is just, and if it sees both sides of the case in time it will see that fair play is rendered. Now is the time to get that fair play, instead of letting the situation rest on one side, and play into the hands of municipal ownership on the other.

Many of the complaints against the gas companies are just, and as many more have not an element of right about them.

I repeat here what I have said several times before, that the gas companies should advertise their troubles where the public can see them.

Why are the gas companies in the pillory to-day? Because their rates are higher than they were, or because the companies are fighting to make the rates higher.

All the consumer knows about that phase of it is that the companies are trying to exact more money from them than ever before. Now, if the industry as a whole would do some propaganda work of its own account, it could make the public see the reasonableness of its arguments. The people would then remember that during, and directly after, the war the price of all other products and commodities soared, while the rates of gas stayed the same, in most cases, until legislation permitted a change. Law-making bodies of some of the cities and States still are debating whether or not a rise in the rate per 1,000 cu. ft. should be permitted, and meantime some of the companies are facing bankruptcy. Why should not the industry tell the consumers about it? Why should not the industry let the consumers know that the cities themselves could not run the gas plants on the maximum rates they permit the companies to operate on?

A movement like that, in itself, would combat the tendency toward municipal ownership, and would make thinking people agree to a higher rate, if by such charge they could be assured of good service. The consumer is just enough to see that the companies cannot run at a loss and that there must be enough money coming in to permit the plants to keep up the repairs, to lay new mains, to maintain the business.

In some cities the gas has not been up to the standard. What does the consumer think about this? Naturally, he believes that the gas company is "profiteering." And why? Simply because the attitude of the producers is to sit back and wait for conditions to adjust themselves. And all the while they are losing the support of sound thinking people. They are permitting the situation to slip out of their grasp.

Tell Your Story to the Public

Now I believe that it is time for the industry to tell the public that at this time it is impossible to get raw material of the best quality. It is time to assure the public that the inferior material is costing the companies as much if not more than the better quality cost before the war. Tell the story. Be frank about it. Let the public know all the details of the gas production business, and make them sympathize with it. No maudlin sentiment, but hard-headed business sympathy. Taking everything into account.

You, as gas men, all know that there are certain con-

(*Continued on page* 103.)

Predicts Numerous Changes in City Gas of the Future*

Certain Changes and Improvements Bound to Come in the Process of Manufacture

By R. B. HARPER, M.W.S.E.

Like many of the great industries, that of the manufacture of gas for use in cities has undergone and will undergo certain changes and improvements. True it is that the manufacture of city gas is one of the oldest of the great industries in this country and perhaps one which has undergone comparatively little change in its essential features. This is in part no doubt due to the fact that manufactured gas has unlike many of the great commodities, been under more or less stringent regulation as to its quality almost since the inception of the business.

While regulation of the quality of any product is desirable, unfortunately, when such regulation is applied by governmental or other agencies outside of the industry producing the commodity, there is always a certain amount of inertia, indifference and sometimes suspicion which it is necessary to overcome in order to have existing regulations superseded by others which are more suited to the prevailing or future conditions.

It is the purpose of this paper to lay before you some of the factors which have affected the manufacture of so-called "town," "city" or "illuminating gas" in the past and will doubtless have a bearing upon the quality of the artificial gas of the future.

In order to more fully appreciate the situation as regards the city gas of the future, we perhaps should go back to the very foundation of the gas industry and very briefly trace its progress.

Early History

Early in the seventeenth century it may be said that the volatile combustive products from coal were discovered and named "geist" (meaning ghost or spirit) but that no practical application was made of this discovery until about 1792, when William Murdock distilled coal in an iron retort and by conducting the gas thus made through tinned metal tubes, he was able to illuminate his house at Redruth, Cornwall.

Other installations were made and much interest was aroused in the new form of lighting so that in 1812 a royal charter was granted and in the following year the City of London Gas Light Company was established. A few years later, or in 1816, the city gas industry took foothold in the United States at Baltimore, Md., where an ordinance was passed to permit Rembrandt Peale and others to manufacture gas, lay pipes in the city streets and enter into contracts with the city of Baltimore for lighting the streets.

It was quite natural for people, who had previously been dependent upon candles or crude forms of oil lamps for artificially lighting their homes or streets at night, to look upon gas almost solely as an illuminant. It was also to be expected that the lighting value of the new illuminant should be measured by the only "yard stick" known at that time, namely the light given by wax candles. Hence, it was that in the early stages of the development of the industry, the value of city gas came to be measured in terms of its "candle power" or the intensity of light of its open flame burned under conditions as to burner, rate of burning, etc., specified by municipal or other regulatory bodies.

Later History

By 1880, Lowe had contributed much to the practical development, in the United States of the carbureted water gas process, which consists in passing steam through a bed of fuel (usually coke or anthracite, previously heated to incandescence by a "blow" or blasting with air) and mixing in red hot checkerbrick the blue water gas (consisting chiefly of hydrogen and carbon monoxide) thus produced, with oil gas formed by introducing and spraying oil upon the hot brick.

Both the coal and carbureted water gas processes were useful in the production of city gases having highly luminous open flames and hence were usually known as "illuminating" or "candlepower" gas. These gases have, therefore, been produced chiefly for the characteristic luminosity of their open flame.

Changes in Utilization of City Gas

There has been a gradual but almost complete revolution in gas utilization but practically no change in processes of manufacture of city gas since the early days of the industry, about 100 years ago. For about the first sixty or seventy years, city gas was almost solely used for the purpose of lighting houses and streets by means of open or luminous flames which depended for their luminosity upon the fact that the gas contained certain compounds of carbon and hydrogen, derived from rich or bituminous coals or oils which gave out considerable light when the gas was not preadmixed with air before reaching the zone of combustion. In contrast to this, city gas is now almost solely used for the purpose of heating by means of the so-called Bunsen or non-luminous flames. The Bunsen flame depends upon the characteristic of being non-luminous because air is mixed with the gas before it reaches the zone of combustion, thereby greatly increasing the rapidity of combustion and concentration and temperature of the flame volume. It is the type of flame now used in almost all gas burning appliances, such as gas ranges, or stoves, water heaters, industrial equipment, mantle lamps, etc.

Changes in Regulations for City Gas

The change in the nature of the utilization of city gas has resulted in the gradual tendency for regulatory authorities to insert specifications as to heating value in addition to the existing candlepower requirements.

In States and municipalities where the utility commis-

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sions or city authorities have come to recognize the revolution which has occurred in the use of gas, there has been a tendency to set specifications for the heating value only and to discard the candlepower requirements. However, some communities have not as yet been able to overcome the inertia usually encountered whenever an attempt to modernize city gas quality specifications, the necessity of which is perhaps perfectly obvious to an engineer but is unfortunately too frequently looked upon with suspicion by the politician or others upon the regulatory body.

Origin of Heating Value Standards

In setting requirements, regulatory bodies have somewhat naturally chosen standards which were substantially the heating values of city gas made by processes only intended originally for the production of so-called "candlepower" or illuminating gas giving a high degree of luminosity when burned in open flames. Thus, it has come about that heating value standards have been set in accordance with what happened to be the heating values of city gas as then made and not on the basis of processes which were designed to economically utilize the gas-making materials, as provided by nature, in such a manner as to produce the greatest total heating value per unit cost of gas-making material.

Gas-Making Materials

Nature provides us with coal and petroleum, which together with products derived from these, constitute the principal materials from which city gas can be manufactured. While coal as gas-making material is found in relative abundance in the United States, we are apparently producing our known petroleum resources at an alarming rate and consuming petroleum and its products at even a much greater rate.

While this indicates conditions which may be unduly alarming as to the future petroleum situation, we should nevertheless take heed and see to it that we make the most economic use of our remaining available petroleum even though our oil resources are much greater than what we now estimate them to be.

Economic Use of Gas-Making Materials

Coal.—In bulletin No. 102, part 4, of the Smithsonian institution, entitled "Coal—the Resource and Its Full Utilization," a balance sheet is given on page 9 which shows that one ton (2,000 pounds) of bituminous coal valued at $1.13 at the mine could be made to yield coke, gas, ammonium sulphate, benzol and tar worth $15.59. The bulletin also states that we have yet underground about 1,500,000,000,000 tons of bituminous coal and that about 9,200,000,000 tons have been mined.

So far as bituminous or gas-making coals are concerned, the resource may be considered large provided the standards of heating value for the gas produced do not unnecessarily restrict the selection of coals available for gas making.

From the standpoint of gas manufacture, by-product ovens appear to be the economic solution of the problem of producing the useful materials derived from the constituents of bituminous coal, provided the solid product of coke so obtained is converted into water gas and the latter mixed with the surplus or available gas from the ovens, for use as city gas. From other standpoints, the by-product oven makes possible the recovery of certain by-products from which are derived chemicals, disinfectants, drugs, dyes, explosives, fertilizers, medicines, motor fuels, solvents, etc., which are so necessary and useful to society.

Petroleum.—Petroleum, in sharp contrast with coal, as a gas-making material, has already been shown to be in great need of conservation.

In the Smithsonian Bulletin No. 12, Vol. 1, entitled "The Energy Resources of the United States; a Field for Reconstruction," the statement is made on page 75 that—

> The use of gas oil, a high grade fuel oil, in the manufacture of city gas represents a practice largely unjustifiable on the basis of resource economy.

Carbureting or gas oils have, due probably to various processes which are "cracking" or converting increasing amounts of such oils into gasoline or motor fuels, shown considerable decreases in value for gas making.

Thus we show that we have now practically reached a condition wherein one cent's worth of gas oil does not contribute as much to the total heating value of gas produced as does one cent's worth of generator fuel, and hence that gas oil no longer fulfills its original function of being a carbureting agent.

Relation of Petroleum Situation to the Gas Industry

It has been shown that our total consumption has exceeded our marketed production of crude petroleum in the United States for every year since 1914. This has no doubt been a strong factor in the constantly increasing price for crude oil.

The price of oil apparently varies in accordance with the ratio of the total consumption to the total production of crude oil in the United States.

For some time there has been a very serious shortage in gas oil due to a number of factors.

The utilization of fuel oils in which class gas oil is placed by the oil industry, has been increasing at a much greater rate in various industries than has the consumption of carbureting or gas oils. This condition shows that gasoline, some of which is made from fuel and gas oils, as well as fuel oils consumed by railroads, and the merchant fleet are in relatively greater demand than gas oils by the gas industry.

The oil refining business is apparently adjusting itself to the greater demands for gasoline by making inroads into the portions of crude oil formerly refined into gas and fuel oils. This shows that while more refined products, such as gasoline, kerosene, gas and fuel oil and lubricating oil, are being secured each year from crude petroleum, the tendency in oil refining seems to be to produce more gasoline and kerosene at the expense of the gas and fuel oil portions.

The petroleum situation has undoubtedly had some effect on the amount of oil used in each one thousand cubic feet of carbureted water gas produced in this country. The estimated average carbureting or gas oil used will probably show a decrease from about 4.06 in 1915 to about 3.74 gal. per thousand cubic feet in 1920.

Trend in Heating Value Standards for City Gas

The general trend in standards for city gas has been toward lower heating values which have made possible

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the necessary conservation of oil and the more economic use of coal for the manufacture of gas.

There has been a tendency in some communities to retard what appears to be the necessary trend in the heating values of city gas in order to secure more economical utilization of gas-making materials, but, in general, regulatory bodies are gradually revising standards which reduce the use of oil and require a greater conversion of the coal into gas and by-products.

Recently the Dominion of Canada adopted a heating value standard of 450 B.t.u. per cubic foot for city gas and in England, in order to conserve fuel, the Fuel Controller recommended to the Board of Trade that gas companies be compelled to make the greatest possible use of coal for gas production by requiring them to produce gas having a heating value of not greater than 425 B.t.u. per cubic foot.

City Gas of the Future

Having covered briefly the various conditions of the past and present, we can now consider what appears to be the trend in the manufacture of the city gas of the future.

It will be seen that the total pounds of actual gas-making materials required per thousand cubic feet of gas varies from about 115 lb. of oil for oil gas and about 280 lb. of gas coal for surplus oven gas down to a total of only about 95 lb. of coke and steam for manufacturing straight blue water gas.

In these cases we find that straight blue water gas is the most economically produced as regards weight or cost of gas-making materials required for the production of one thousand cubic feet of the gas.

As lesser quantities of oil gas are present in mixtures with blue water gas, the total heating value of the carbureted water gas is somewhat higher than might be expected. This is due to the oil gas at lower concentrations being of higher value than at high percentages of oil gas mixtures with blue water gas.

It should also be noted that when the oil costs as much or less in cents per gallon than the generator fuel costs in dollars per ton, the carbureted water gas of approximately 440 B.t.u. per cubic feet total heating value has the most contributed to its total heating value per dollar's cost of gas-making materials, but that when the oil is more costly, straight blue water gas without any oil is the most economical from the standpoint of the contribution to the total heating value per dollar's cost for the gas-making materials.

Straight blue water gas contributes about 880,000 B.t.u. per dollar's cost of gas-making materials, whereas with oil at 12 cents per gallon and gas coal at $6 per ton, straight oil gas and by-product oven surplus gas contribute only about 680,000 B.t.u. to the total heating values of respective gases, per dollar's cost of gas-making materials.

From the standpoint of the economical use of possible gas-making materials, it appears that in the future city gas may be made as far as possible by carbonizing gas coal in a by-product oven and using the coke so produced in water gas machines to make a straight blue water gas to be mixed with the surplus oven gas. Such a gas would consist of about 80 to 85 per cent of the blue water gas and 15 to 20 per cent of surplus oven gas giving a mixed gas having a total heating value probably somewhat less than 350 B.t.u. per cubic foot.

Such a city gas of the future would permit the economical utilization of coal and the maximum production of gas therefrom on the basis of gas-making material costs. It would also make possible the continued use of the present equipment in water gas machines with the exception that oil would not be employed in the process.

The city gas consisting of the blue water gas coke oven gas mixture should be very stable in quality, burn well and when consumed in burners properly adjusted or set for its use, should give good service to the consumers.

The city gas of the future, such as has been described, will probably come gradually but nevertheless surely if the present economic trend of conditions as regards gas oil continues. Furthermore, if the oil situation follows its present trend, the city gas of the future may be determined more by what it is possible to manufacture from the available gas-making materials than by any other consideration such as the most heating value per unit cost of gas to the consumer.

Its coming will necessitate changes in the total heating values of gases supplied in cities and hence in the standards of quality specified by the regulatory bodies.

It will cause many problems in an industry which is said to represent an investment of about $5,000,000,000 and a service of nearly 50,000,000 people with fuel and light, but no doubt all of these questions will be solved as they occur. There will be added investments in plant and distribution equipment necessary in some cases and probably more or less readjustments of some gas appliances in nearly all cases as the evolution in the total heating values of gas causes the change from present city gases of 500 B.t.u. to city gases of the future having perhaps less than 350 B.t.u.

Each problem will require its own solution and in each case there will no doubt be made every effort to best serve the interests of the consumer, the gas company and all parties concerned.

No Decrease in Price of Gas Oil for 1921

New York, N. Y.—The Brooklyn Union Gas Company has closed a contract with the Standard Oil Company of New York for 45,000,000 gal. of gas oil at 12.3 cents a gallon, including transportation costs to the works. This will cover requirements for first half of 1921, with option to renew at the same price for gas-oil needs in second half of the year.

This is the highest price ever paid by a local gas company for gas oil under contract. It represents an increase of 5 cents a gallon over contract made by Brooklyn Union for first half of 1920. The advance is equal to increase of $2,250,000 in cost of the half-year's supply over the cost in first six months of 1920.

The Consolidated Gas Company, which uses over 125,000,000 gal. a year, is negotiating for its 1921 supply and will undoubtedly pay around 12¼ cents a gallon. Its contract is expected to cover first six months' requirements.

Small independent refiners in the interior are offering gas oil as low as 5 cents a gallon, but because of transportation costs, including boat deliveries in New York Harbor, this oil would be higher if brought to the Atlantic seaboard than the price quoted by local refiners.

Sales of Gas for Lighting Can Be Important Part of Business

Great Possibilities in This Branch of Industry Explained in A. G. A. Subcommittee Report on Gas Lighting

THEO. H. PISER, Chairman

In taking over the work of the illumination committee of 1919 we found a specific recommendation in the report by its chairman, Charles O. Bond, that a survey be made for the year 1920 to ascertain as closely as possible the ratio of lighting sales to total gas sales in the United States. The committee soon learned that this already had been undertaken by the association staff at headquarters, and Mr. Stotz, secretary of the commercial section, reports that from returns of 359 member companies covering their operations for the calendar year 1919, they made computations which would indicate that 22.28 per cent of all gas sold is used for illumination purposes. From the same returns they computed the percentage of gas used for street lighting at 0.90 per cent.

It early became apparent that the most important work the committee could undertake would be to amplify the suggestion of last year's committee and to get as complete information as was possible of the status of gas lighting in the United States and Canada. We therefore sent out through the office of the association a gas lighting questionnaire.

Answers to Gas Lighting Questionnaire

Out of the 325 member companies, 53 gas (exclusively) companies and 81 combination companies replied, which is 41 per cent of all the member companies. The committee believes that this comparatively high percentage of replies is in itself an indication of the considerable interest taken by gas men in gas lighting.

Gas (exclusively) companies reported as follows (total 53):

Question No. 1—What special sales efforts on residence lighting, commercial lighting and street lighting have you made in the last twelve months?

Answers—One blank; thirty "none"; twenty-two (40 per cent) reported activity, summarized as follows:

Constant solicitation; exhibiting, specializing and pushing sales of semi-indirects; a gas company in New England reports from twenty to fifty men selling mantle lamps and semi-indirect lighting fixtures and maintaining them all the year round; changing obsolete gas units to modern units especially in churches and public buildings; literature distributed daily on gas lighting by outdoor salesmen; a New York State gas company reports that its salesmen carry C. E-Z and inverted lights with them and make their own installations during the lighting season; general advertising, house-to-house campaigns, sales floor displays. A Canadian company reports a canvass of its commercial lighting, getting new installations and bringing up-to-date any of the units which were behind times; also while the daylight saving time is in effect charges maintenance rates for nine months, giving the three summer months without charge.

Question No. 2—Please outline your plans for special efforts on gas lighting for the coming season.

Answers—One blank; thirty-five reported "none"; seventeen (32 per cent) gave plans summarized as follows:

Six companies plan to run house-to-house semi-indirect campaigns; advertise through pamphlets sent out with monthly bills; push the sale of mantle lamps; attractive floor displays of semi-indirects, portables, domes, showers, floor standards, fancy brackets and shades.

Question No. 3—Do you furnish gas lighting for streets? If so, what is the number of lamps furnished? their candlepower? their average consumption? What is your schedule of lighting hours? Are they high-pressure lights or low pressure lights?

Answers—Two blanks; thirty-three reported "no street lighting"; eighteen (34 per cent) furnish street lighting, summarized as follows:

No. of Lamps	Candle-power	Average Consumption	Schedule of Lighting Hours	High or Low Pressure
10,000	60	3½ ft.	4,000	Low
900	60	4	4,000	Low
1,519	..	3	....	Low
1,070	60	4	10 run 4,000; 1,060 run 2,240	Low
663	80	3	Dusk-Daybreak	Low
2,509	60	.	....	Low
4	500	6,000 ft. mo.	Sunset to Sunrise	Low
3,560	60	3½	2,100	Low
5,536	60	3½	3,950	Low
581	60	3½	4,000	Low
166	150	20,000 ft. yr	4,000	Low
21	..	3	6 p. m. to 6 a. m.	Low
276	100	4	Dusk to 1.30 a. m.	Low
3,343	60	3½-4	3,936	Low
1,512	60	14,000 ft.	3,950 per lamp	Low
6,000	..	..	....	....
383	210	Varies	Varies	Low

One company reports its supplies free lights to the city under a lease, but omits answers.

Question No. 4—Have you done any advertising of gas lighting by booklets? Folders? Newspapers? If so, please send samples.

Answers—

	Yes	No	Blanks
Booklets	15	30	8
Folders	17	25	11
Newspapers	16	25	12

Six companies sent samples of their advertising matter.

Question No. 5—Do you go after gas piping in new houses? If so, state briefly how you do it and what the results have been.

Answers—

Yes	No	Blanks
30	20	3

Summarized as follows: New piping is reported to be mostly for heating and cooking; in a comparatively few cases for lighting. Visit all owners and architects of new buildings. Very little new building reported for past three years. One Illinois company reports: "Houses in some sections of city lighted with gas and no trouble to pipe houses here; other parts all electricity." Following is the report of the operations of a New England gas company for the year 1919:

Number of new buildings		603
Piped for gas only (13.8%)	83	
Piped and partly piped for gas and wired for electricity (56.4%)	340	
Piped for gas—Kitchen, laundry and bath (17.5%)	106	
Wired for electricity only (12.3%)	74	
		603

This company reports that it sends gas lighting literature to every one who secures a building permit.

One Iowa company reports: "No results at this time because of high building costs. Have piped several hundred houses in ten years." Another Iowa company states: "Induce builders to put in as much piping as possible, usually getting basement, kitchen and maid's room, and rarely getting all the rooms in the house."

A Canadian company writes: "We have a new building bureau (which is under the commercial department) to follow up the building of all permits issued and get the proper piping installed for all possible outlets. We are having good results with the exception of lighting in private houses, for which we are only able to obtain a small number of outlets. We are getting considerably better results for commercial lighting and almost perfect results for gas kitchens, fire places and laundries."

A Pennsylvania company writes as follows: "We endeavor to have architects and builders install gas piping for lighting in new houses. In the houses that sell for $3,500 or less considerable piping has been done. In the house that sells for more, gas is used only as an auxiliary."

Question No. 6—Are you gaining, holding your own, or losing, in the amount of your residence gas lighting? Please give reasons why this is happening.

Answers—Nine reported gaining; sixteen holding own; eighteen losing; ten blanks.

Summarized as follows: Companies that report gaining on residence lighting. A New Jersey company reports: "We look after all installations, keep three merchandising cars and install equipment promptly." This from a Pennsylvania company: "We can make this claim because we are selling more gas fixtures and lamps than ever in our history." A Utah company reports: "Gaining slightly. Quality for study lighting; reliability for work in kitchens."

Companies that report holding their own. No outside salesmen; customers installing electricity; present building operations are mostly wired only." A Michigan company reports: "We are not soliciting growth that will require us to expend any additional capital. Sales are showing 10 per cent to 15 per cent increase."

Companies that report losing. A Massachusetts company writes: "Lack of intelligent, persistent pushing, and inroads of electricity." Another from Massachusetts says: "We are probably losing on residence lighting due to the tendency of the time to turn to electric lights on account of its flexibility and lack of fixture and ceiling discoloration, and the comparative ease of maintenance as against the gas mantle lamps." From Indiana: "Yes, losing. Cost of maintenance too high."

Question No. 7—Are you gaining, holding your own, or losing, in the amount of your inside commercial lighting? Please give reasons why this is happening.

Answers—Nine report gaining; twelve holding own; twenty losing; four do not have inside commercial lighting; eight blanks.

Summarized as follows: Companies which report gaining on inside commercial lighting. A gas company in New Jersey writes: "We have a real live maintenance man. Give better service and merchants realize that it is dependable. Have an inexpensive maintenance plan that pays its own way." From South Dakota: "Gaining. Poor electric service the past year." From Missouri: "A small amount of commercial lighting has been installed during the past season." From Utah: "Quality and volume of light; free maintenance."

From Canada: "We are gaining slightly on the inside commercial lighting, and this may be attributed partly to the fact that the electric supply is not altogether reliable, and that business places insist on having light at all times, and a great deal to the fact that our maintenance system appeals to the business party as giving him constant and reliable service."

Companies reporting holding their own. New Hampshire company writes: "Holding own by having burner maintenance." From New York: "Gas lighting has many advantages for commercial and industrial purposes."

Companies reporting losing. Electric competition; unable to get enough salesmen to properly canvass consumers.

Question No. 8—Are you gaining, holding your own, or losing in the amount of your outside commercial lighting? Please give reasons why this is happening.

Answers—Seven report gaining; four holding their own; twenty-three losing; eight do not have any; eleven blanks.

Summarized as follows: Gains generally attributed to natural growth due to constant solicitation. Those holding their own in many cases report that the maintenance cost of outside lighting is discouraging for increased business. Those losing report as follows: Forbidden use during war and never regained; discontinuance of saloons; difficulties in rendering maintenance service; electric signs are taking the place of other outside lighting; outside gas arcs get out of order; tendency of times to turn to electric lights.

Question No. 9—Are you gaining, holding your own, or losing in the amount of your street lighting? Please give reasons why this is happening.

Answers—Two report gaining; eleven holding their own; seven losing; sixteen do not have any; seventeen blanks.

Summarized as follows: Gains. Free gas lighting under the lease with the city An Iowa company reports: "Show slight gain. Well defined gas and electric districts in the city. As new homes are built and districts extended, orders are issued to place street lamps."

Losses. Difficulty in obtaining domes and globes, shortage of labor, excessive wages.

(*Continued on page* 98.)

Tells Public Business of Utilities Is Most Urgent Care Just Now

Indiana Committee on Public Utility Information Starts Vigorous Campaign of Education

The new type of publicity methods, which rapidly is succeeding the former ideas among utility operatives was aptly expressed in Indiana recently when the Indiana Committee on Public Utility Information was organized. Already the organization has done effective work. It seeks to tell the Indiana public at first hand about the troubles and the good points of utilities everywhere.

A recent bulletin, which was sent broadcast to newspapers in the State and which was reprinted in many places, was typical of the methods employed to bring the public to a realization that the business of their own public utility companies likewise is their own most urgent care just now.

Under one heading the bulletin said: "Here's peculiar business; can't quit; must serve." Then it continued:

"There is one business in the period of readjustment through which the country is passing that is in a peculiar position and unlike any other it can't—

"Close down its 'factories' because of high labor or material costs.

"Lay off employees.

"Refuse to take orders because the prices its customers offer doesn't equal cost of production and give a profit.

"This peculiar business is that having to do with the production of electricity, gas, transportation and communication services. Regardless of how difficult the working conditions may be, it must grind away twenty-four hours a day, for a lapse in functioning would be disastrous, not only upsetting all business and methods of living, but also involving life and death itself.

Utilities Must Take Orders

"While all other industries can refuse to take orders from customers, the utilities are not permitted to do so. They must continue to take them and get the necessary equipment in place to render service just as fast as their credit will permit them to borrow the necessary money from investors. Exorbitant market prices for coal, steel, labor and other products may result in other industries closing down for a period but the utilities are precluded from this, the State Public Utilities Commission exercising a watchful eye to see that there is no let up in the services rendered communities."

Failure of Municipal Ownership

In the same issue of the committee's official bulletin was a discussion of municipal ownership's failures that reiterated an editorial in a Boston newspaper, as follows:

"The serious troubles the Indiana cities and towns, unfortunate enough to have municipally owned utility plants, are experiencing, do not seem to differ materially from the predicament of cities in other States that have embarked in commercial enterprise. Higher rates than those charged by private companies have brought much criticism; wornout plants resulting from failure to administer their affairs in a businesslike manner, politics and necessary heavy bond issues to take care of improvements, have been a few of the hardships which communities have been forced to put up with.

"An editorial in the Boston *Herald* relative to an experience in Massachusetts runs so true to form when compared with recent experience in Indiana, that it is herewith reproduced in part:

" 'Six cities and town surrounding Wakefield pay for gas 70 cents less per 1,000 cu. ft. than Wakefield consumers are now to be charged under municipal ownership. These cities and towns, Malden, Melrose, Medford, Everett, Stoneham and Reading are all served by the Malden & Melrose Gas & Electric Company, and their consumers pay a rate of $1.50 net.

" 'But this is only part of the story. Let us do something towards its completion.

" 'For twenty-five years, Wakefield has been putting money into its municipal lighting plant, and in spite of these continued and heavy expenditures, the electric end of the establishment because so absolutely worn out, two or three years ago, that the town gave up the manufacture of electricity, buying its current from the Edison Company in Woburn and retailing it to Wakefield customers. So much for the electric end.

" 'Now the Wakefield commissioners report that the gas end of the establishment is worn out, and that wherever the gas supply comes from, the town's customers must pay $2.20 net for this illuminant, while the neighboring cities pay private companies $1.50. But this, also, is only part of the story.

Lost on Taxes

" 'In addition to the original expenses of construction, and the higher rates for light and power, Wakefield has lost the taxes which a private corporation would have paid on the same plant, amounting to several thousand dollars each year.

" 'Now this is not a bad example for municipal ownership, as municipal ownership goes. In fact, we think the people of Wakefield are to be congratulated in getting out of it so cheap. They have lost only the expense of establishing the plant, which has gone to pieces on their hands, the loss of taxes which a private company would have paid, and extra rates to consumers, now 30 per cent above those of a private company. That is not extraordinary punishment. The more usual experience is that public ownership costs from two to fourteen times as much as private ownership, and that if we want to turn back the hands of civilization, there is no more sure way of doing it than to take business out of the hands of those who have some stake in making it succeed, to put it into the hands of those whose reward must come in politics and political preferment. There the man who does a thing the most wastefully runs best at the polls.

" 'Still proposals to put things under public ownership in city, State and nation go merrily on. And there

are people to-day who are looking forward with eagerness to the transfer to politics of the American railroads, now beginning to gasp once more after their terrifying experience under public operation. When shall we ever learn the lesson that Wakefield teaches?' "

BRINGING CONDITIONS HOME TO CONSUMERS

And then the bulletin "localized" a recent survey of gas conditions, by applying the name of the secretary of the Indiana Gas Association to a report of national significance, as follows:

"The so-called deflation movement has so far failed to exert any influence upon the cost of materials entering into the manufacture of artificial gas. Coal and oil, the principal raw materials, are purchased under contracts, and have not yet reflected the declining price tendency that is shown in other commodities, according to E. J. Burke, secretary of the Indiana Gas Association.

"Statistics of a group of twenty-five gas companies operating in fourteen States indicate that the increase in average revenue per thousand cubic feet of gas from 1914 to 1920 was only 24 cents. Over the same period the increase in average cost of oil, coal and coke was over 36 cents per thousand cubic feet, thus giving an increase in cost for manufacturing materials more than 12 cents in excess of the increase in average revenue per thousand cubic feet. The increased rates granted to these companies have been insufficient to meet the increased cost of raw materials alone, says Mr. Burke. Other costs, including labor, entering into the distribution and delivery of the gas to the consumer's premises swell the total increased cost to 44½ cents per thousand cubic feet in 1920 over the average cost of 1914, making the total increased cost at the burner 20½ cents in excess of the increase in average revenue. The average net income per thousand cubic feet in 1920 is 18 cents under the average for 1914.

"About 700 of the thousand or more artificial gas companies operating in the United States have been granted increases in the rates that they were permitted to charge in 1916, but many of these are not permanent and others have been inadequate in amount to insure profitable operation. There is one favorable development, however, in the fact that the public as well as the regulatory bodies better understand the situation now than at the time when the need for increased rates first became necessary."

Governor Miller Demands Gas Rate Remedy in Special Message

Refers to Decisions of Federal Courts in Connection with Rate Cases and Says Immediate Action Is Necessary

Albany, N. Y.—Governor Miller's long awaited message on the public utility situation was presented to the Legislature this week. As was expected, it deals principally with the transit situation but it does devote some thought to the gas situation. Just what action can be expected as a result of this message could not be predicted at the present time but the investigating committee which the Legislature intended to appoint, according to information received here a couple of weeks ago undoubtedly will go through.

With reference to the gas situation Governor Miller's message says:

DEMANDS GAS RATE REMEDY

I invite your particular attention to the subject of gas rates. Acts of the Legislature prescribing particular rates have been found to be confiscatory by the Federal courts. The result is that the companies affected are left free to impose any rate, subject only to the requirement of reasonableness. That condition requires immediate remedy. Either the Legislature must prescribe new rates or confer jurisdiction over the subject on the commission, regardless of any statutory rate. If we are to have a Public Service Commission at all, it should have complete jurisdiction over that subject. Likewise, it should have jurisdiction to regulate the service and prescribe the standards of quality and the like.

It is impossible to exaggerate the importance and the value to the people, if well done, of the work of the Public Service Commission. That body should be elevated to the dignity and the standing of a court and should be removed from political influence. If a commission of five is retained, I recommend that the terms be so arranged as to expire at intervals of three years, the ultimate term of the commissioners to be appointed upon the expiration of the terms of the present incumbents to be fifteen years.

The determinations of the commission when once made should be obeyed. There may be some reason for it, but I see no necessity of an appeal from the commission to itself, which must involve some unnecessary expense to parties and to the State, but, more important than that, effective regulation requires that the orders of the commission be obeyed until they are set aside.

I also invite your consideration of the question whether the commission does not undertake too much work of an administrative character. The great functions of the commission are quasi judicial or legislative. As I have said to you in an earlier message, the commingling of administrative with legislative or judicial functions impairs the efficiency with which both are discharged and may also lead to abuses. A body suited to discharge important quasi judicial or legislative functions is apt to be unsuited to administration, and attention to one duty is apt to detract from performance of the others.

RECOMMENDS ONE ADMINISTRATOR

I think that has been demonstrated by the constant growth in the expenses of the two commissions. An examination of the organization under the Public Service Commission for the second district discloses the typical development of the bureaucratic system incident to such commingling of powers. There appear to be eight divisions, each with a division chief, and apparently they constitute so many separate departments, each naturally magnifying its own importance and with little or no correlation of effort and service between them. It is inevitable that they are overmanned, and I think it will be little short of miraculous if a close investigation does not disclose that in every one of the divisions there are employees who, at some periods, have little or nothing to do. I am not prepared to say that the work of any of the divisions should be curtailed or dispensed

(*Continued on page* 103.)

Sales of Gas for Lighting Can Be Important Part of Business

(*Continued from page* 95.)

Question No. 10—Have you any suggestions for new types of gas lighting units?

Answers—Seven offered suggestions; twenty-four replied "none"; twenty-two blanks.

Summarized as follows: A single unit bracket gas light of high candlepower would be helpful in a number of installations, also a double unit. Long distance lighting device. Make gas lamps so the heat is better baffled in order to save ceiling discoloration. We need a more dependable and stable equipment for small units. New types of gas lighting units can be quite easily designed by copying the up-to-date electric units used for commercial lighting purposes. An ordinary size unit for bracket lighting, with special glassware, to throw light out into the room

An Illinois company writes: "We have no suggestions to submit. We are promoting the sales of semi-indirect fixtures and the regular inverted lights which have proven satisfactory."

From Iowa: "There are units now on the market that would satisfy the most fastidious consumers where they can be induced to use gas for lighting."

Question 11—Have you any suggestions to make as to the improvement of present units?

Answers—Eight offered suggestions; twenty-three replied "none"; twenty-two blanks.

Suggestions summarized as follows: A burner that will do the work for which the "Thrift" burner was designed. Good, positive, reasonably-priced, distant control for both inverted and upright indoor lighting Better glassware. Make gas lamps so that the heat is better baffled in order to save ceiling discoloration. Better pilots or self-lighting devices. Present arc lamp could be materially improved by the introduction of a few efficient globes, changing from the plain ordinary ball globe, which is becoming an eyesore having been so uniformly used for commercial lighting. There are a few such globes on the market at the present time but the cost is almost prohibitive.

An Iowa company writes: "Non-positive pilot lights have done more than anything else to discredit gas lighting."

Question No. 12—How can the committee best help you to promote gas lighting?

Answers—Thirty-four did not answer or else wrote they were not interested; nineteen (36 per cent) made suggestions, summarized as follows: Good natural advertising, write-ups, booklets, copy for newspapers. Send copies of reports of what others are doing. By urging more development in the matter of fixtures to help the future of gas lighting. Window display suggestions. Get some Austrian glassware shipped to this country. It stands the heat better and does not cost so much. Get after the cheap fixture makers who give gas lighting a black eye with their inefficient lamps. By working on elimination of pilot trouble and the discoloration of ceilings and fixtures. Data on gas lighting campaigns. Discourage the sale of cheap inferior mantles and lamps by manufacturers to 10-cent stores (consumers buy them, install them and then find fault with gas lighting) by telling us how to get ahead of the electric companies.

Combination companies reported as follows (total 81):

Question No. 1—

Answers—Sixty-three reported "none"; three blank; fifteen (18½ per cent) reported they had either advertised, run campaigns, adopted inverted gas bowl and new type silk fiber mantle, maintained competent force of house-to-house inspectors, or rendered maintenance service free.

Summarized as follows: Nearly every company reporting emphasized the fact that it is a "combination company" and carries on no competition between gas and electric, but rather devotes its energy to electric lighting solely. Practically the entire output of gas is diverted to cooking, heating and industrial purposes (such as japanning and core baking), allowing electricity to be the leader in lighting. Five companies reported campaigns or special sales of semi-indirect fixtures and C. E-Z lights, and a Louisiana company reported installing arcs for the winter season, on a maintenance basis of 60 cents per month.

Question No. 2—

Answers—Forty-nine reported "none"; twenty-one blank; eleven (13½ per cent) reported favorably.

Summarized as follows: Extension of mains to 150 mill tenements (principally for cooking purposes, however); efforts on store lighting; C. E-Z and semi-indirect campaigns.

Question No. 3—

Answers—Seventy reported "none"; two blank; nine (11 per cent) reported favorably. Summarized as follows:

No. of Lamps	Candle-power	Average Consumption	Schedule of Lighting Hours	High or Low Pressure
65	..	3½	4,000	Low
7,150	60	3½	3,950	Low
140	20	5	All night	Low
10,741	..	..	4,000	Low
524	80	674,000 c. f. p. mo.	Dusk-Dawn	6 High
				518 Low
350	60	3½	4,000	Low
4,993	60	3½	4,000	Low
23,761	..	3	Variable	Low
140	70	6	Sunset-Dawn	Low

Question No. 4—

Answers—One reported using booklets; three reported using folders; ten reported using newspapers; sixty-seven reported "none" or left blank.

Question No. 5—

Answers—

	Fuel and Appliances		
Yes	No	Only	Blank
14 (17%)	44	19	4

Summarized as follows: A Southern company reports: "It has come to us faster than we could handle without any special effort." Another Southern company: "Cost plus 25 per cent. Fair results." A Pennsylvania company: "We do not solicit gas piping in new houses as we do not care to conflict with plumbers in this respect."

Question No. 6—

Answers—Seven report gaining; twelve holding their own; thirty-two losing; seventeen do not furnish; thirteen blanks.

Summarized as follows: Many companies report that they are not interested in residence lighting but furnish electricity. One company reports: "Gained 8 per cent in 1919 probably due to high electric rates and

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As the Journal Views It

Co-operation and Co-ordination

Frequently there is confused in the minds of executives of gas companies the meanings of co-operation and co-ordination of effort. We hear a great deal about co-operating, but mighty little about co-ordination. This question recently came up when the head of a large company recited an instance that had defeated months of work simply through lack of co-ordination. The collection department of his company, in attempting to co-operate with the accounting department, locked off the meter of one of the best customers of the company, although the collector who took the action was thoroughly familiar with the account. But he had received orders and the big thing that had been impressed on his mind was that he must co-operate. The consumer protested that a check had been sent and was even then in the mails, but the collector carried out his orders.

Now, this consumer was a leader of thought in the town and he had been bitter in his denunciation of the gas company. A great deal of effort and time had been spent in trying to convince him that he was on the wrong track, and he had just begun to respond to the treatment he was accorded and the facts that were presented to him when this unfortunate incident took place. All of the work was lost at once and he again became an active foe of the company. This could have been avoided if there had been co-ordination in that company, for then the information that the collector had would have resulted in his using his judgment in refraining from hasty action and the matter would have been referred back to the proper authority for decision.

As a result of this untoward happening the gas company manager declared that he would stop preaching co-operation and would devote a trifle more time to co-ordinating the efforts of his employees so that such mishaps would be avoided. This is a subject that could well be taken to heart by us all. It will pay.

Gas for Lighting

The recent determined effort in several sections of the country on the part of gas companies to fight for at least a part of the lighting business is one of the most encouraging signs that have come to attention in a long time. There is no valid reason why gas companies should not get a large part of this business. It is rightfully ours; but we have got to fight for it. And the way to fight is to get on the firing line. When a building is contemplated, no matter what its use is to be, get out after the business. See that this new structure is properly piped for gas, but don't let that end your efforts. Having convinced the architects and builders that piping is necessary, go that one step farther and make them install the right fixtures. In other words, the business of lighting the building is ours provided we are on the job.

An example of how an order was lost that would have been a great feather in the cap of the gas industry is shown in the fact that a government building recently sought information on the subject of right lighting. A representative of the Government went to the gas company and tried to get information about lighting methods. He was treated so indifferently that he finally gave up. He was interested in gas; in fact, he wanted to use it. But he was turned away and the GAS INDUSTRY LOST THE ORDER.

Get out after this business. It is profitable and certainly will help. But go after it. Don't wait for the other fellow to bring it to you.

A New Gas Law for New York

The recommendation of Governor Miller, in a special message to the New York State Legislature, that a public utilities commission be appointed in such a manner as to remove it as far as possible from the influences of politics and political considerations is certainly a move in the right direction. For a long time far-seeing gas company executives have advocated just such action, and present appearances are that at last this step will be taken.

But when the time comes for the appointment of the new commission it is to be hoped that gas companies will not attempt to mix in politics. Operating a public utility company is sufficient business for any group of men, and politicians and men of that ilk have no place in an up-to-date organization, in no matter what guise. The public generally believes that politicians are more or less closely allied with public utilities, but the gas men generally have not taken the trouble to combat this opinion. Here is an opportunity.

The question brought up by Governor Miller whether the Legislature will take up the question of rates or place this power in the hands of a new public service commission, it would seem, can be answered by the attitude of the Legislature on the transit situation. It seems safe to predict that this question will be settled by the passage of a new law, as was intimated in dispatches from Albany printed in these columns a few weeks ago. Undoubtedly there will be a new law passed; but whether it will stand the test of a court decision, of course, cannot be foreseen. Legislators generally are of the opinion that in framing the new measure they will proceed slowly; but that remains to be seen. In the meantime the wise gas man will refrain from entering into a political controversy or of allowing any of his representatives to attempt to "play politics." It is a dangerous business.

The Gas of the Future

Special attention is directed to the article by R. B. Harper which appears in this issue. Mr. Harper's analysis of what the future holds for gas in the city is well worth the attention of every gas company man, no matter what his position. It would seem that Mr. Harper has presented a solution for the problem that has been worrying practical gas men for a long time. Mr. Harper does not claim that the idea is original with him, but his exposition of the facts will be of interest to both the advocates of water gas and coal gas.

It is hoped that this article by Mr. Harper will open up a discussion that will prove of real aid to the gas industry at large. The AMERICAN GAS ENGINEERING JOURNAL stands ready to do its part.

Advertising Yourself

The best way to keep a gas company before its public has long been a question that has puzzled company executives. Not that there has been a lack of attention on the part of consumers but simply that the ideals of the service of the company have not become as widely known as is considered desirable. Many are the methods that are used, but it would seem that the best way—that of personal contact—has not been used as much as it might have been. Gas company managers can take an active interest in the civic and social welfare of the city not only to the advantage of the company but also to their own benefit, particularly in an educational way.

Practically every man that a representative of the gas company meets has some question regarding the service and the topic once opened up gives ample opportunity to the executive to spread the story of his company with its idea of service.

Get out and meet your consumers. It will repay you.

Sale of Gas for Lighting Can Be Important Part of Business

(*Continued from page 98.*)

high cost of living." From a Pennsylvania company: "Gaining. The only reason I can give is that due to the prosperity of the workingman to-day they are having their houses piped for gas." From Minnesota: "Losing. Cause: activity in wiring old houses."

Question No. 7—

Answers—One reported gaining; thirteen holding their own; thirty-four losing; twenty-three report practically no inside commercial lighting; ten blanks.

Summarized as follows: A New York company reports: "We believe we are losing on our commercial gas lighting. The contractors in our city seem to be paying more attention to the commercial wiring contracts than they do to the residence wiring contracts." One company reports: "General conditions and unprofitable gas rates have not warranted going after this business."

Question No. 8—

Answers—None reports gaining; eight report holding their own; thirty losing; nineteen haven't any; twenty-four blank.

Question No. 9—

Answers—One reports gaining by a few lamps each year; four holding their own; eleven losing; forty-three haven't any; twenty-two blank.

Quesion No. 10—

Answers—Five offered suggestions; thirty-seven replied "none"; thirty-nine blanks.

Summarized as follows: Would like to see a combination of mantle lighting and radiant fire heater. A gas lamp as convenient, reliable, clean and fool proof as incandescent electric will compete. Semi-indirect lighting appeals to the public. That the committee might study successful electric designs and profit thereby. A New York company writes: "We have no particular suggestions in mind at this time for a new type of lighting unit. We do feel, however, that our success in holding our gas lighting business as well as the installation of new piping has been through the medium of some of the higher priced gas fixtures, more particularly the semi-indirect units. The largest portion of our gas fixture business is in the semi-indirect units which appeal to people much more than some of the old types."

Question No. 11—

Answers—Five offered suggestions; thirty-four replied "none"; forty-two blank.

Replies summarized as follows: Secure glassware up to pre-war standard. Substitute aluminum for brass and make lamps as durable as possible. Build lamps for B.t.u. gas. A more sturdy baffler should be used on the semi-indirect units than is found at this time. The baffler should also be more firmly attached to the burner. Chain pull on semi-indirect fixture is open to some criticism inasmuch as its operation usually causes a swinging of the fixture.

Question No. 12—

Answers—Nine offered suggestions; seventeen reported "not interested"; fifty-five blanks.

Replies summarized as follows: By magazine propaganda, and by standardization of lamps, mantles and glassware. By forwarding on request suggestions for increasing gas lighting output. Solve the problem of maintenance cost. Interest manufacturers in making better glassware, and urge importance of bringing back quality of material and workmanship found in lamps three or four years ago. By perfecting a mantle and pilot that will give no trouble. By advising us of any developments or improvements in gas lighting units. An effort to eliminate candlepower standards and the substitution therefor of a reasonable B.t.u. standard that will insure better service and reduce maintenance troubles on incandescent lighting.

One company writes: "Do not require help. Believe best to boost gas sales through gas cooking, heating and industrial purposes and leave lighting to electric company." A New York company. "It does not seem that the manufacturers of gas lighting units are doing as much national advertising as has been done by the electric fixture manufacturers. If you pick up the national magazines you read about '. . .,' '. . .,' and numerous other electrical lighting units and fixtures. Advertising of gas lighting has disappeared entirely."

Resume of Questionnaire Answers

It is evident that a fairly large proportion of the member gas companies have not only made special sales efforts during the past year but have in view special efforts on gas lighting for the coming season.

Re Questions—About 40 per cent of the gas lighting member made special sales efforts during the past year and 18½ per cent of the combination companies.

About 32 per cent of the gas companies and 13½ per cent of the combination plan special efforts on gas lighting this coming season.

About 34 per cent of the gas companies maintain or furnish street lighting, all, however, low pressure. About 11 per cent of the combination companies furnish gas street lighting, all low pressure, with the exception ot one location which has 518 low-pressure and six high-pressure lights.

About 30 per cent of the gas companies advertise gas lighting either by booklets, folders, or newspapers, or by a combination of more than one medium; and about 17 per cent of the combination companies do likewise.

About 60 per cent of the gas companies and 17 per cent of the combination companies go after gas piping in new houses.

	Gaining	Holding Own	Losing	Do Not Furnish	No Ans.
Residence gas—	P. C.	P. C.	P. C.	P. C.	P. C.
Gas companies.....	17	30	34	..	19
Comb. "	9	15	39	21	16
Inside commercial—					
Gas companies.....	17	22	37	8	16
Comb. "	1	16	42	29	12
Outside commercial—					
Gas companies.....	13	7½	43½	15	21
Comb. "		10	37	23	30
Street lighting—					
Gas companies.....	4	21	13	30	32
Comb. "	1	5	14	53	27

SUGGESTIONS FOR NEW TYPES OF GAS LIGHTING UNITS

	Offered Suggestions P. C.	Had None to Offer P. C.	Did Not Answer P. C.
Gas companies	13	45	42
Comb. "	6	46	48

IMPROVEMENT OF PRESENT UNITS

Gas companies	15	43½	41½
Comb. "	6	42	52

About 36 per cent of the gas companies and 11 per cent of the combination companies offered suggestions as to how the committee could best help them promote gas lighting.

Deductions from Questionnaire Answers

The general deductions to be made from the replies to the questionnaire are, that practically one-half of the gas (exclusively) companies are enthusiastically and aggressively going after gas lighting and either gaining or holding their own; that about one-third are letting gas lighting go by the board and are naturally losing; and the remainder (one-sixth) gave us no data on which to base conclusions.

Generally speaking, the combination companies are not interested in gas lighting—the exception being some of the Eastern combination companies. Outside of the East the combination companies probably had very little if any gas lighting to start with, but in the East some of the combination companies began originally as gas companies and a good many of them are yet actively pushing gas lighting. For instance, the largest semi-indirect lighting campaign run up to the present was operated by a combination company in Lawrence, Massachusetts. And other representative combination companies in the East (such as Lynn, Mass., Nashua, N. H., and others) have run one or more successful lighting campaigns recently.

The answers show that quite a number of the member companies are having a good deal of trouble with their commercial lighting. The local gas lighting conference at Boston, held April 9, 1920, developed the fact that some of the companies are using a very practical and effective scheme for building up their commercial lighting. This takes the form of going out after dual lighting; that is, the substituting of gas arcs or gas lights for some of the electric lights for the reason that frequently the electric service fails, and unless a building has some gas lighting it is very apt to be in total darkness. And as a department store manager said: "I will never know how much silk hosiery we lost from that counter during the time the electric lights were out." It is not difficult to get stores which are using electricity to put in some emergency lights, but emergency gas lights in an emergency are of no use because they are not maintained. But with dual lighting there is a certain portion of the illumination by gas, in regular use, which gives the gas company enough consumption to make it pay to maintain the service.

The questionnaire developed several requests for a more reliable pilot and a method to prevent gas from discoloring the ceiling. Considerable strides have been made by manufacturers in improving pilot lights the past few years, but it is only fair to say that the great trouble the gas companies have had in getting proper material for gas making has had a serious effect on the pilots and also has caused undue ceiling discoloration. It is to be hoped and expected that as things gradually return to normal in this respect there will be much less pilot trouble, particularly with the new type pilots, and a minimum of ceiling discoloration with the new types of fixtures.

A careful reading of each questionnaire answer shows plainly as might be expected, that those gas companies which report the use of aggressive methods in pushing gas lighting and the providing of good maintenance are also able to report that their gas lighting is in good shape.

General Conditions Affecting Gas Lighting

Before the war gas companies in general maintained their lights, practically all had complete forces of solicitors, were campaigning and generally pushing the gas lighting business. During our participation in the war these activities were necessarily greatly diminished, principally through losses by withdrawals from the personnel to enter the service. Since the finish of the war there has been a fairly rapid building-up of the selling and maintenance forces, but this year further resumption of activity in gas lighting is still curtailed by the lack of gas-making materials and their high prices and by the low rates under which the gas companies have been operating—all of which has so harassed the gas manager that he has not had sufficient time to give to gas lighting. These conditions are now gradually easing up, however, and we believe that next year the new committee will have a more fertile field in which to work.

Regarding this field, it is too frequently considered by the gas men that the consumption of lighting units is small and hardly worth bothering with. This may be true when considering a single unit, but when considered in quantity the case is found to be far different. Take this matter of replacing regular size single inverted lights, one of which is ordinarily found in the living room. This unit will burn about four feet of gas and have a pilot light. If this is replaced by one of the newer types of fixtures, say, two mantles, the consumption will be six feet in addition to the same pilot consumption as on the single unit, so that for every fixture thus installed we have an *increased* consumption of two feet per hour.

It has been found that lights installed in living rooms burn on the average 1,000 hours per year, which gives an *increased* consumption in the living room of 2,000 ft. per year, so that for every 1,000 fixtures installed we obtain an increased consumption of 2,000,000 cu. ft. per year. One combination company which installed 3,000 fixtures thus increased its consumption in the neighborhood of 6,000,000 cu. ft. per year, and all of this increase was sent out without additions to its mains, services or meters.

There are certain sections of every city wherein gas companies cannot sell a great deal of domestic or even industrial fuel so that, if they lose their lighting business, their mains and services will practically lie dormant. The committee believes that the companies sometimes lose sight of the fact when considering gas lighting, that where they have services and a meter installed the cost to them to deliver 1,000 ft. of gas on those premises is practically as much as to deliver 10,000 ft. or more; that is, of course, except the bare cost of putting the gas in the holder.

The More Important Advantages of Gas Lighting

It seems to be the fashion in some quarters to "bang" gas lighting. For instance, take this paragraph from

the story "Break Over" in the October number of the *Woman's Home Companion:*

"Would you believe it, my dear, there are still houses in New York that have never been wired for electricity? Yes, the people still actually use gas for lighting. Imagine—when here in Centertown everybody uses electricity for *everything.*" (The last word in italics.)

Obviously the goat is gas lighting, but don't you see that in addition to knocking gas for lighting they are knocking gas for all uses? Surely, the word "everything" in italics shows this.

When all is said and done, gas lighting has unquestionably a number of advantages over its competitor: First, in quality of illumination; second, its reliability; and third, economy. Gas lighting is also hygienic, as it sterilizes the air, and causes its circulation which ventilates.

There are three essential things necessary to the holding and building up of gas lighting:

First, periodical and thorough maintenance, and your committee believes that this can be given on practically a self-supporting basis. If further proof were needed of the absolute necessity of maintenance for gas lighting it would be the fact that the electrical interests are rapidly taking it up. This is described in a paper by J. L. Stair entitled "Maintenance of Indirect Lighting Equipment" (page 292 *Transactions I E S.*).

Second in importance is the modernization of lighting units, not only because the newer units are more artistic and provide the consumer a more comfortable light with higher efficiency, but they require materially less maintenance. All of us know no matter how carefully the fixtures are made they require maintenance; and we also know from past experience that our customers will not give them this attention, either through lack of knowledge or indifference.

Third, in order to increase gas lighting it is necessary to pipe both old and new buildings, and in several locations where modern gas lighting has been aggressively pushed a considerable amount of important lighting business has been secured in churches and public buildings as well as residences, but it must be understood that this business can only be had through high-grade solicitors with adequate salaries.

The committee therefore strongly recommends to those companies who are not doing so, that they install at once a thorough system of maintaining their incandescent burners; that they modernize their lighting units as rapidly as possible; and endeavor to secure the piping of old and new houses through the medium of high-grade and well paid solicitors.

That considerable help for gas lighting would be obtained if a national lighting week were once more observed, particularly if given as much publicity as when first inaugurated several years ago and as is now given to gas range week and gas water heater week.

There is really but one serious trouble with gas lighting, namely, that it has not been properly sold to some companies. Therefore our principal and concluding recommendation is that next year's committee confine its efforts chiefly to reporting facts and figures to the association from time to time regarding successful sales efforts and campaigns on different lighting units, with figures showing the yearly consumption of those units and with other helpful information; as the committee believes that those who are not pushing gas lighting are simply failing to do so because they do not realize the large revenue the other company members are actually obtaining from gas lighting.

Only Way to Fight Municipal Ownership Is by Arousing Public

(*Continued from page* 90.)

ditions in the industry to-day that cannot be helped, that you are powerless under the circumstances.

Your gas oil costs more, your labor is high, your product costs more, and in many cases you do not get value received for your output.

For the good of all concerned, tell this to the consumer, in well-written letters and advertisements. Do not make the matter the least bit technical. The consumers do not understand the vernacular of your business. Tell it in English.

This is the time for frankness, for in all of the forty-three cities which to-day are operating under municipal ownership, rates are high, too. This is a good argument for your case, showing as it does that the cities cannot make their own investments pay. No city can manufacture superior gas with inferior material, any more than the companies can.

It is not the truth that turns the consumer against the utilities. It is the eternal mystery of the situation that confounds them. It is the fact that they do not know a thing relative to the product they are buying, and the utilities do not treat the consumer as an entity. They do not take the public into their confidence. There seems to be an air about the very buildings housing the utilities which tells the public to "keep off."

Gas men, shout your troubles. You are in a legitimate business. You have nothing to fear except what obstacles you make for yourselves. Watch for the symptoms of unrest. Look out for the "insidious ten." Advertise to combat them. Hold on to private ownership, to the advantage of all concerned. You be the doctors.

In my next article on municipal ownership I will show a number of arguments that have been used in favor of the proposition. They are good arguments, but all can be combated. So I'll give the antidote, too.

Governor Miller Demands Gas Rate Remedy in Special Message

(*Continued from page* 97.)

with. I recommend the study of that subject. I am prepared to recommend, however, that if continued, that work be placed under one administrator who will see that it is properly correlated and efficiently done. The commissioners will have all they can attend to if they properly discharge their important quasi judicial or legislative functions. They should not be burdened with the administration of such a department as now exists under them. Of course, the appropriation committees will look carefully into this subject. Instead of increasing the appropriations for the department over $180,000, as is requested, I have no doubt that it will be found possible to effect decreases by more efficient organization. How that should be done, I submit to your consideration.

Public Utilities Securities Market Report

Prices of Representative Gas Bonds

(Quotations furnished by The National City Company)

Company	Issue	Maturity	—Market— Jan. 27, 1921 Bid	Asked
American Lt. & Trac. Co.	Five Year 6s	May 1, 1925	88	89½
Brooklyn Union Gas Co.	First Consol. 5s	May 1, 1945	74½	76
Columbia Gas & Elec. Co.	First 5s	Jan. 1, 1927	85	87
Consol. Gas, Elec. Lt. & Pr. Co. of Baltimore	First Ref. 7½s	Dec. 1, 1945	99	99½
Consol. Gas, Elec. Lt. & Pr. Co.	General 4½s	Feb. 14, 1935	75½	76½
Consol. Gas Co. of New York	Sec. Conv. 7s	Feb. 1, 1925	98½	99½
Consol. Gas Co. of New York	One Year Sec. 8s	Dec. 1, 1921	99⅞	100
New Amsterdam Gas Co.	First Consol. 5s	Jan. 1, 1948	64	66
Denver Gas & Elec. Co.	Gen. (now 1st) 5s	May 1, 1949	81	84
Detroit City Gas Co.	Gold 5s	Jan. 1, 1923	94	96
Equitable Illum. Gas Lt. Co. of Philadelphia	First 5s	Jan. 1, 1928	93½	96
Hudson County Gas Co.	First 5s	Nov. 1, 1949	75	77
Laclede Gas Light Co.	Ref. & Ext. 5s	Apr. 1, 1934	73½	75
Louisville Gas & Elec. Co.	First & Ref. 7s	June 1, 1923	93½	95½
Michigan Light Co.	First & Ref. 5s	Mar. 1, 1946	70	72
Milwaukee Gas Light Co.	First 4s	May 1, 1927	81½	82⅜
Pacific Gas & Elec. Co.	Gen. & Ref. 5s	Jan. 1, 1942	77	78
Pacific Gas & Elec. Co.	Col. Tr. Conv. 7s	May 1, 1925	96½	97½
Pacific Gas & Elec. Co.	First & Ref. 7s	Dec. 1, 1940	98	99
Cal. Gas & Elec. Corp.	Unif. & Ref. 5s	Nov. 1, 1937	83¾	84½
Peoples' Gas Lt. & Coke Co.	Refunding 5s	Sept. 1, 1947	66⅝	67¼
Chicago Gas Lt. & Coke Co.	First 5s	July 1, 1937	72	74⅞
Portland Gas & Coke Co.	First & Ref. 5s	Jan. 1, 1940	75½	77
Seattle Lighting Co.	Refunding 5s	Oct. 1, 1949	64	68
Southern California Gas Co.	First 6s	Nov. 1, 1950	85	87
United Gas Improvement Co.	Two Year 8s	Feb. 1, 1923	99¾	100
Utica Gas & Electric Co.	Ref. & Ext. 5s	July 1, 1957	73½	75
Washington Gas Light Co.	General 5s	Nov. 1, 1960	76	76½
Western States Gas & Elec. Co. of California	First & Ref. 5s	June 1, 1941	75	78

Gas Company Has $65,583

The Minneapolis (Minn.) Gas Light Company had a cash balance of $65,583 at the close of business Dec. 31, 1920, according to the report of Rufus R. Rand, Sr., as receiver of the company, filed recently with the clerk of the United States District Court. The total receipts were $3,922,136.92, and total disbursements $3,856,552.85. Mr. Rand was appointed receiver Jan. 27, 1920, by Judge Wilbur F. Booth.

Gas Reports

Subsidiaries of the General Gas & Electric Company report for Nov., 1920, operating revenues of $1,076,693 and operating income of $239,764 as against income of $247,530 in the same month of 1919. Operating revenue for the twelve months ended Nov. 30, 1920, were $11,167,969, with operating income of $2,375,255 as compared with income of $2,646,377 in the preceding twelve months.

Earnings Statement, Commonwealth Power, Railway & Light Company

The Commonwealth Power, Railway & Light Company, Danville, Ky., reports for the month of December, 1920, gross earnings of $2,982,950.64; operating expenses, $1,861,606.35; gross income, $1,121,344.29; fixed charges, $743,176.47; net income available for dividends, replacements and depreciation, $378,167.82; dividend, preferred stock, $89,765; balance, $288,402.82.

For twelve months ending Dec. 31, 1920: Gross earnings, $31,285,981.39; operating expenses, $20,623,389.07; gross income, $10,662,592.32; fixed charges, $8,787,674.31; net income available for dividends, replacements and depreciation, $1,874,918.01; dividend, preferred stock, $1,077,180; balance, $797,738.01.

Winsconsin Utilities Show Growth

Madison, Wis.—From a plant value of $38,903,853, in 1914, to $93,959,495 in 1919 is the growth of electric light utility business in Wisconsin as shown by the biennial report of the Wisconsin Railroad Commission.

The gas utilities showed a steady growth but not in any such proportion as obtained in the electric business. In 1910 the combined property and plant accounts of the gas utilities in the State amounted to $24,149,734 which had increased to $27,303,741 by 1914 and to $30,869,929 by 1919. Operating revenues for the gas industry in 1910 were $4,009,205, in 1914 they reached a total of $5,002,909, and in 1919 they amounted to $7,896,525.

Consolidated's 1920 Report Shows Deficit of $5,692,000

Heavy Cost of Materials Offset Gain in Gas Sales

The following is a condensed statement of assets and liabilities of the Consolidated Gas Company of New York, Dec. 31, 1920:

ASSETS

Fixed assets, including land plant and equipment	$54,828,630.94
Bonds and stocks of and advances to affiliated companies and other investments (a)	140,954,480.30
Bonds and mortgages	268,000.00
Cash	2,375,969.78
Accounts receivable	4,743,572.23
Material and supplies	1,720,946.24
	$204,891,599.49

LIABILITIES

Capital stock	$100,000,000.00
Five-year secured 7% convertible gold bonds	25,000,000.00
One-year secured 8% gold notes	25,000,000.00
Demand notes	6,450,000.00
Accounts payable and accrued charges	8,652,662.71
Gas sales suspense (b)	2,796,728.08
Stock premiums	13,918,878.23
Renewals and reserve funds	12,821,613.17
Profit and loss	10,251,717.30
	$204,891,599.49

(a) Includes $2,502,000 par value of United States Liberty Bonds.

(b) Amount of gas sales resulting from the increase in the price of gas, not included in the earnings pending final action of the United States Supreme Court.

The figures thus far available, respecting the Consolidated Gas Company's operations for the calendar year 1920, indicates that the loss from its gas business during the year amounted to at least $4,343,286.09. The rentals derived from the use by others of properties not wholly devoted to the gas business of the company yielded $282,332.32. The dividends and interest, applicable to the year 1920, received on stocks, bonds and other obligations and on advances made to affiliated gas and electric companies, operating in the Boroughs of Manhattan, Queens and the Bronx and in the county of Westchester, amounted to $7,594,688.23. The interest, which accrued during the year on funded and other debt, chargeable against earnings, amounted to $2,225,057.37 Dividends were paid during the year on the company's capital stock at the rate of 7 per cent per annum, amounting to $7,000,000. The excess, over income, of interest and dividends paid, resulted in a charge against the profit and loss account of the Consolidated Gas Company, amounting to $5,691,522.91.

It will be observed that the loss from the company's gas business during the past year amounted to at least $4,343,285.09. As an offset to this, there accrued during the period from July 1 to Dec. 31, the sum of $2,796,728.08, representing the amount collected under the order of the United States District Court, in excess of the statutory rate of 80 cents per thousand cubic feet, which was not included in the earnings for that period. From July 1 to Aug. 5, the company charged its private consumers $1 per thousand cubic feet under temporary injunction. Since Aug. 5 the rate of $1.20 has been in force under the final decree entered by the court.. Had the company been able to collect the rate of $1.20 during the entire year 1920 the amount collected in excess of the statutory rate of 80 cents would have been $8,301,244.64. The loan from the company's gas business during the years 1919 and 1920 aggregated $6,197,045.35. The earnings for the two preceding years, 1917 and 1918, aggregated but $1,463,099.58, or at the rate of about nine-tenths of one per cent per annum on the company's investment in its gas business, as found by the court. The deficiency in the company's earnings during the four years from 1917 to 1920 inclusive, below the cost of gas including a return of 8 per cent upon its investment in its gas properties, has aggregated no less than $21,741,624.27. The deficiency in the earnings of the affiliated gas companies during the same period has been, on the same basis, not less than $15,000,000.

Increased Investment for Construction and Equipment

For the present and future, the Consolidated Gas Company and its subsidiaries are confronted not only with a continuance of high operating costs, but also a substantially increased investment per unit of productive or distributive capacity, on which future rates must be such as to yield a fair return. As stated in the last report, the increase in the maximum winter demand for gas made necessary the construction and equipment of an additional water gas plant at Astoria, having a daily capacity of 30,000,000 cu. ft. This plant, which is known as "plant D," is practically completed, six 12½-ft. generators out of the twelve which will constitute the equipment of this station, having been put in service. The plant represents an expenditure of about $6,000,000, which does not include all of the auxiliary structures required for a complete water gas plant.

The growth in the demand for electric service has likewise necessitated the erection, which is now in progress, of a new generating station in the Bronx, at the foot of East One Hundred and Thirty-second and One Hundred and Thirty-fourth Streets on the East River, by the United Electric Light & Power Company, which will be known as the Hell Gate Station. It is estimated that its ultimate cost will approximate $24,000,000.

During the period of the war, the electric companies felt constrained, as a matter of compliance with the policy outlined by the Federal authorities, as well as of sound business policy, to defer, to the greatest possible extent consistent with the fulfillment of their franchise obligations expenditures for construction purposes. It became necessary, however, in 1920, to increase substantially the transmission, distribution and substation facilities of the New York Edison Company, not only for the purpose of meeting the prospective increase in the demands for its service, but to provide greater insur-

ance against interruption in service in respect of the business already on its lines. This involved capital expenditures, during the year 1920, by that Company of approximately $11,763,000.

The aggregate capital expenditures of the Consolidated and its affiliated gas and electric companies for the year 1920, were $29,817,035.96, of which $21,190,800.48 was for electric property and $8,626,235.48 for gas property; and it is estimated that in the year 1921 it will be necessary to expend for additions to and extensions of the gas and electric plants and distributing systems a sum substantially in excess of last year. These capital expenditures will represent from one and one-half times to twice the outlay, which would have been required, prior to the war, for additions and extensions of corresponding productive and distributive capacity. These expenditures in 1920 and 1921 are rendered imperatively necessary by reason of the franchise obligations of the gas and electric companies to meet the demand on the part of the public for their service. Unlike other industries, these companies may not curtail their capital expenditures, for any reason whatsoever, below the point where the requirements of the public may be fully and adequately met. Nor can the readiness on the part of these companies to render service, lag behind the public's demand for service. The demand for service must be anticipated and anticipated with sufficient liberality to insure a margin of safety above the maximum demand that can reasonably be foreseen, and the manufacturing and distributing plant and equipment must be kept adequate to supply such demand.

Increased Rates Inadequate to Meet Cost of Material

Furthermore, the cost of money (that is to say, the rate of return upon which capital has been obtainable) has increased from 33 1/3 to 50 per cent. In other words, in order to put a dollar of investment under existing conditions, upon a parity with a dollar of investment under pre-war conditions, the earnings upon such dollar would have to be from twice to two and two-thirds times as great as upon the pre-war dollar. This element of cost alone would operate to render otherwise adequate rates entirely inadequate; but the rates have not been otherwise adequate, because the cost of the materials and labor entering into the production and distribution of gas and electric current have likewise enormously increased. Coal and labor are the principal elements of cost in the production and distribution of electric current. The price of steam coal, delivered alongside the electric companies' docks, has increased during the period of the war from $3 to $8.40 per ton, and the rate of wages paid hourly employees in the various electric departments has increased approximately 100 per cent. The principal items entering into the cost of manufacture and distribution of gas are coal, gas oil and labor. The price of anthracite, before the war, was approximately $4.67 per ton, as compared with the present cost of $12.07 per ton f. o. b. the docks of the gas companies. The price of bituminous coal f. o. b. our docks prior to the war was $3.30 as compared with the average price paid in the fall of 1920 for gas coal of $11.82. The gas oil contract for the year 1915 was at the rate of 3 cents a gallon. The price for 1921 is at the rate of 12¼ cents a gallon. The rate of wages paid hourly employees in the various gas departments has increased approximately 100 per cent.

The necessity for an increase in the rates charged to the public for gas and electric current, especially in the gas rate, has been obvious for a long period of time, not only to those entrusted with the administration of the affairs of these companies but to most of their customers as well, who appear to realize that, if the companies are to continue to render the best gas and electric service possible and to keep up such service without a break, they must be permitted to collect rates which will enable them to meet the tremendously increased costs of coal, gas oil and labor. Notwithstanding this very fair and common-sense attitude on the part of users of gas and electric service, counsel for some of the public authorities from the opening of the trial of the Consolidated Gas Company case, felt called upon to delay and obstruct in every possible way that judicial ascertainment of the facts which was the constitutional right of the company. Every essential fact set forth in our previous reports and every essential contention made by counsel for the companies, have now been judicially sustained and fortified in the present litigation. Time, effort, and expenditure of money that should have been unnecessary, have been required in this task, owing to the attitude of these self-appointed champions of such consumers as do not wish to pay increased rates, irrespective of their merits or the urgent necessity therefor, and even after the contest is won and the justice of the companies' claims is demostrated, there remains what Judge Hough, in the Federal court, referred to as the disposition "to sullenly contest in every species of guerrilla action the legitimate consequences of the main victory." In the ultimate analysis, the consumers and the taxpayers alike have to bear the heavy burdens of the expense of this kind of litigation, which would be avoided under a more sound adjustment of the regulatory law and mechanism of the State.

Favorable Decisions in Rate Controversies

The proceedings begun by the Consolidated Gas Company in Jan., 1919, to obtain relief from the 80-cent gas rate culminated in a favorable report from the special master appointed by the United States district court for the southern district of New York, and the entry, on Aug. 11, 1920, of a final decree in that court, sustaining all essential contentions of the company and putting in effect a rate of $1.20 per thousand cubic feet. The rate of $1.20 was adequate to cover actual operating costs as of early 1920 and pay an 8 per cent return upon the company's actual investment in property used in its gas business, although it does not represent more than 5 per cent upon the present value of such property. With the increases in rates of pay and in the cost of coal and other materials during 1920, and the increased cost of gas oil for 1921, elsewhere discussed herein, the $1.20 rate barely covers present operating costs and yields virtually nothing as return upon investment. It is therefore as unremunerative and confiscatory to-day as was the 80-cent rate when the proceeding to test the validity of that rate were begun.

The rate suits instituted by subsidiary gas companies have been advanced with all practicable diligence during the year. On Nov. 19, 1920, the Federal court entered a decree confirming, with minor modifications, the report of the special master in the New York and Queens Gas Company case, and restraining the public

authorities from enforcing the statutory maximum of $1 against that company and from interfering in any way with the charging of an adequate rate by that company. On Nov. 19, the company put in effect a rate of $1.25 per thousand cubic feet plus a service charge of 75 cents a month, which, as of that date, was sufficient to defray operating costs and yield slightly less than 7 per cent upon the company's investment. The introduction of the service charge principle in rate making is looked upon as a sound and logical step, of great importance to the public and to the gas industry. Naturally the service charge has commended itself to the company's consumers in Queens; and its introduction by other companies in the metropolitan territory is forecast. With the increased cost of gas oil for 1921, the present rate including the service charge in the Flushing territory barely covers actual operating costs.

Other subsidiary companies in the Manhattan, Bronx and Long Island City territories, put in effect a $1 rate on July 1, 1920, under preliminary injunctions granted by the Federal court. Modifying orders increased this rate to $1.10 on Dec. 1, 1920. As intended by the court, this rate, at that time, yielded approximately 10 cents per thousand cubic feet over and above actual operating costs; and the court ruled that, under temporary injunctions in advance of trial, the rates should be such as to yield 10 cents per thousand cubic feet above such actual costs, the theory of the court being stated to be that the only measure of relief which should be granted on preliminary injunction, is such as will relieve only "the more acute cruelties of the situation" and leave the company under the "sting" of financial necessity to expedite its case. The increased cost of gas oil for 1921 has added more than 21 cents per thousand cubic feet to the production costs; and the $1.10 rate, therefore, falls more than 10 cents short of meeting present actual operating expenses. Action to advance the rates now being charged by the various gas companies to a figure adequate in view of present costs of oil, coal and labor, will be taken at an early date.

22-Candlepower Standard Contributes to High Cost of Gas

From time to time, within the year, public authorities within the State of New York have initiated inquiries as to the advisability of discontinuing a candlepower standard for gas and substituting therefor the B.t.u. standard. Engineers and executives of this company have attended such hearings when summoned and have placed at the disposal of the public authorities any experience or information desired by them in reaching a conclusion. The position of this company has been, and is, that, within the limits of operating possibilitiy, it will furnish, and does furnish, to its consumers gas of such standard of candlepower or heating value as may be desired and directed by the public through its official representatives, and that the company will in turn require the payment of a reasonable rate for gas of the quality thus prescribed. So long as twenty-two-candlepower gas is prescribed by statute or commission order the company will furnish that quality of gas and expect to be paid therefor a commensurate rate. The inquiries of the public authorities within the year have, however, established, in the opinion of the company's executives, that the continued requirement of the twenty-two-candlepower standard produces gas of no greater utility to the consumer than that of approximately 550 B.t.u., but makes the necessary price of gas to the consumer, under the 1921 price for gas oil, approximately 12.18 cents per thousand cubic feet more than would be necessary under such thermal-unit standard. The large waste of oil resulting from the continuance of the candlepower standard no doubt has a bearing upon present oil prices.

Reference has been made to the increase in the price of coal and in the rates of wages paid to labor, which constitute the principal elements of expense in the production and distribution of electrical energy. Those increases have occurred largely since the New York Edison and the United Electric Light & Power Companies made a voluntary and experimental reduction in their maximum rate for electric service to 7 cents per kilowatt hour. Regulations prescribed by the Public Service Commission during the war period had indicated a preference on the part of the regulatory authorities for a temporary surcharge, based on and varying with the increased coal price, rather than an increase in the fixed price of electric current, as a means of obtaining the additional revenue necessitated by the sharp advances in the cost of coal. Accordingly, during 1918 and 1919, coal adjustment clauses were made applicable to several classes of service, and in 1920, when the unprecedented cost of coal brought a serious extremity and it became evident that, if these companies were to be enabled to maintain their service, and their sound financial position during the continuance of maximum costs of coal and labor, it became imperatively necessary to extend the operation of the adjustment clause to consumers to whom it had not theretofore applied. The procedure provided by the commission's orders was therefore availed of to make applicable also to general consumers an adjustment charge partially covering the increased cost of coal to the companies. This adjustment charge was put into effect on Dec. 1, 1920, and amounted for that month to nine-tenths of a cent per kilowatt hour. The amount of the charge is subject to readjustment, automatically, from month to month, in accordance with the variations in the cost of coal and will disappear if and when the price of coal falls to the basic price upon which the 7 cents kilowatt hour maximum rate was predicated.

Maintained Usual Rate of Dividends

It would appear to be unnecessary to say anything in justification of the company's policy of maintaining thus far its usual rate of dividends, despite the prevalence of high prices for materials and labor, inadequate rates for its service, and consequent inadequate earnings. These dividends represent, in part, an appropriation of approximately $10,000,000 from undistributed surplus earnings which, as the result of the conservatism which has governed the company's policy in this regard, accrued over a period of years during which the rates for the service yielded actually less than a fair return upon the investment in the gas and electric properties. That is to say, the rate of dividends paid on the capital stock during those years represented more than twice the rate of return actually earned on the original cost of the tangible property devoted to the public service and more than three times the rate of return actually earned during that period on the present reproduction cost of this property. The capital stock of the Consolidated Gas Company is essentially an investment security only a small percentage of it being held by brokers

in behalf of clients. Of the 9,509 shareholders 69 per cent own less than fifty-one shares each. It has been deemed advisable, notwithstanding the impairment of current earnings and pending the granting of relief sought in the court from inadequate rates, that the usual rate of dividends should be maintained.

Purchase of Bronx Company

The Consolidated Company has acquired and holds 4,563 shares of the capital stock of the Bronx Gas & Electric Company, pursuant to an order of the Public Service Commission for the first district made on Dec. 31, 1920, authorizing the company to acquire the whole or any part but not less than 75 per cent of the 4,855 shares of the par value of $100 per share, of the capital stock of the Bronx company issued and outstanding at a price not exceeding $75 per share This was not a competing company, but supplied gas and electricity in what is known as the old town of Westchester, which is adjacent to the territory supplied with gas by the Central & Northern Union Gas Companies, and with electricity by the New York Edison Company and the Westchester Lighting Company.

The territory served by the Bronx Gas & Electric Company is suburban in character and sparsely settled, amounting virtually to a succession of communities with open country intervening. These factors have kept distributing and other expenses high and made continued financing of the enterprise under inadequate rates a burden to its owners. Beyond any doubt, however, the region is susceptible of substantial development at a date probably not remote, and it seemed that the interests of present and prospective consumers, as well as of the Consolidated Gas Company, would be served by the acquisition of a majority of the stock at the attractive price at which it was offered by investors weary of the struggle against high costs of materials and labor and long-deferred adjustments in rates to a living basis.

The ratio of increase in gas output with which we started early in 1920 did not continue throughout the year. In the spring and through the summer months it was believed by some that the companies would be called upon in the fall for an increased quantity of gas for heating purposes, principally because of the shortage of coal for domestic and industrial use, but toward the end of the year the coal shortage was partially relieved which, combined with the fact that the last two months of the year proved unusually mild, resulted in an increase substantially less than was anticipated.

Difficulties in Obtaining Supplies

The difficulty of obtaining an adequate supply of gas coal and anthracite was attended by a very substantial increase in the cost per ton at the mines and in the cost of transportation to our manufacturing plants. The cost of rail transportation, insurance, lighterage, etc., has become more than the coal itself formerly cost delivered at our plants, and there would seem to be little likelihood that these costs together with the increased cost of labor at the mines will decline at any time now capable of being forecast. Anthracite, for which before the war we used to pay $4.67 per long ton f. o. b. our manufacturing plants, and which in the year 1919 was delivered to our plants at a price of $7.98 per long ton, and which cost in the early part of 1920 $8.25 per long ton, increased during the last half of the year 1920 in excess of $12 per long ton f. o. b. our plants. Likewise bituminous coal, for which before the war we used to pay $3.30 per long ton f. o. b. our manufacturing plants and which in the year 1919 was delivered to our plants at a price of $5.77 per long ton, and which cost in the early part of 1920 $6 per long ton, was increased during the last half of the year 1920 from $11 to $14 per long ton f. o. b. our plants.

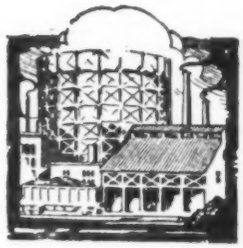
No trouble was experienced in obtaining delivery of a sufficient quantity of gas oil for our needs during the year, but the price we have to pay for it has been materially advanced.

The outlook for the future as to gas oil cannot be said to be reassuring, from the viewpoint of the consumers of a gas industry still required by law to operate under a twenty-two-candlepower standard, prescribed at a time when the supply of gas oil was ample and the price one-fourth to one-third of the present figure. The increased, and still increasing, use of the lighter products of petroleum, notably gasoline, and the constantly increasing effort of the producers to supply the demand, has resulted in the withdrawal from the market of a large portion of the oil best suited for gas production. We are informed that it still may be obtained, and contracts have been made for our 1921 supply, but at a price that opens up the serious question as to whether its use can be continued.

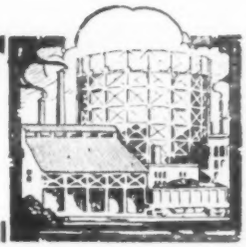
Tests and experiments have been made by company engineers as to the possible use of lower grades of oil in gas manufacture but there are as yet no conclusive developments as to either the practicability of its use, particularly under the candlepower standard, or as to its availability in adequate quantities. The high price of coal has created a demand for oil fuel. Many ships of the United States Navy and the Merchant Marine have been converted from coal to oil burning vessels. This further use of the heavy products of petroleum in the immediate future might be deemed to indicate that fuel oil may not be obtainable, if indeed its use is found practicable.

A contract has been made with the Standard Oil Company of New Jersey for the gas oil requirements of the Consolidated and its allied gas companies operating in the boroughs of Manhattan, the Bronx and Queens, at the price of 12¼ cents per gallon plus harbor transportation, which varies slightly for each plant, but is less than one-eighth of a cent per gallon as to most of the plants. This increase of approximately 5¼ cents per gallon will add to the cost per thousand cubic feet of mixed coal and water gas sold by the Consolidated Gas Company, approximately 21 2/3 cents, and to the cost of straight water gas sold by our affiliated companies approximately 23¾ cents. The contract covers the period ending June 30, 1921, with the privilege of renewal for the balance of the year; and it is also subject to the condition that the quantity stipulated may be reduced in accordance with the quantity required to produce gas which will conform to any modification of the present twenty-two-candlepower standard. The price of 12¼ cents a gallon is one-half cent less than the price which the New York Mutual Gas Light Company paid for its gas oil requirements during the last half of the year 1920. The Mutual Company purchases its gas oil separately from the Consolidated Company and the other affiliated companies and from another oil company. In 1920 its contract at

(*Continued on page* 112.)



NEWS OF THE GAS INDUSTRY



Order of P. S. Board Reversed by Appellate Court

Buffalo, N. Y.—The Appellate Division at Albany has handed down a decision reversing the order of the Public Service Commission which allowed the Iroquois Natural Gas Company to charge only 30 cents per 1,000 cu. ft. The company sought to charge a 35-cent rate per thousand for not more than 40,000 cu. ft. and 40 cents above that amount. After the commission fixed the 30-cent rate a stay was granted and the company was allowed to continue to charge the higher rates pending litigation on condition that consumers would receive a rebate if the courts decided against the Iroquois.

The decision doubtless will have an effect on the rate case now before the commission, which, according to an announcement made recently by Chairman Charles B. Hill, will be disposed of the latter part of this month. It may delay the decision, as it is believed Mr. Hill will want to make a study of the opinion in the case before deciding how much of an increase, if any, the Iroquois is entitled to above the 30 cents which he allowed. The company has asked for a 60-cent rate. It is reported that the commission intends to authorize a sliding scale of rates upward.

Fire in Brooklyn Gas Plant

Brooklyn, N. Y.—Fire broke out about 4.15 p. m. Jan. 23 in a pile of fifty trays, each 8 by 4 ft., coated with tar and coal oil, in the plant of the Kings County Lighting Company, which extends from Fifty-fourth to Fifty-fifth Street, on the Brooklyn shore of the Bay. The trays were part of the new gas-making equipment bought by the company.

In a moment flames were towering 75 ft. into the air and billows of smoke cast that part of South Brooklyn into darkness Close to the blazing pile of trays is a big gas tank. Across the street is the plant of the E. W. Bliss Company, and eight naval torpedoes lay close to the fence in full view. On the other side of the column of fire was the plant of the Morse Dry Dock & Repair Company. The gas tank was emptied of its 200,000 ft. of gas in four minutes after the fire was discovered.

The torpedoes, which contained only the propelling charge of compressed air, were carried out of sight and danger, and in half an hour firemen, called by two alarms, had the fire out. The damage was estimated at $5,000.

German Gas Made of Peat Proves Success

Berlin, Germany.—Successful experimentation with the use of peat for gas making is reported from Norden, on the Frisian (northwestern) coast of Germany, where the municipal gas plant is using a mixture of 30 per cent of peat gas and 70 per cent of gas produced in the regular way from coal. The mixture burns with the same illuminating power as coal gas, and has up to the present developed no disadvantages as compared with the regular illuminant. The municipality of Norden is reported to be completely satisfied with the results of the experiment, which are of great importance owing to the present scarcity and high prices of gas coals.

This region, adjacent to the Dutch frontier, is very rich in peat deposits, and the discovery, it is expected, will not only cheapen city lighting materially but also give new life to the peat industry and bring prosperity to the poor inhabitants of the desolate moor lands of east Prussia. The shortage of railway cars, felt in every industry in Germany, will be the principal obstacle to overcome.

Alfred E. Blake Is Appointed Pittsburgh Representative of U. G. I.

Alfred E. Blake, for the three past years sales engineer for the Surface Combustion Company, and who opened up the Pittsburgh office of that company, has resigned to enter the service of the U. G. I. Contracting Company of Philadelphia and has been appointed to represent this company in the Pittsburgh district, with offices at the Union Arcade in Pittsburgh.

Mr. Blake was born in Nashua, N. H., received his bachelor's degree in chemical engineering at New Hampshire State College, and a master's degree from University of Pittsburgh. He has been on the teaching staff of Rensselaer Polytechnic Institute, Carnegie Institute of Technology and University of Pittsburgh. He was occupied in industrial chemical research at Mellon Institute, University of Pittsburgh, for five years, part of which time was devoted to the study of problems relating to glasshouse ceramics, when the great need for increased application of science and modern methods to the use of fuel became apparent.

While a member of the Surface Combustion Company's sales force, Mr. Blake formed a wide acquaintanceship in the Pittsburgh district and secured first-hand knowledge of fuel problems, which should be of great assistance in his new work; that of introducing substitutes for the waning supply of natural gas.

Mr. Blake is a member of the American Chemical Society, the American Ceramic Society, the Engineers Society of Western Pennsylvania and Alpha Chi Sigma. He has contributed extensively to the technical literature of the Engineers Society of Western Pennsylvania and contributed several articles to the trade journals on fuel subjects.

Stockholders' Annual Meeting

Rochester, N. Y.—The Gas & Electric Corporation held its annual meeting of stockholders in the office of President Robert M. Searle on Jan. 18. The directors elected include Milton S. Barger, John Carstensen, Albert H. Harris, Alfred H. Smith, Harold S. Vanderbilt, William K. Vanderbilt, all of New York City; Walter N. Kernan, of Utica, and Edward Bausch, Daniel M. Beach, Thomas W. Tinucane, Granger A. Hollister, Robert M. Searle, Edward G. Miner, Libanus M. Todd, of Rochester. Since the last annual meeting there have been two changes in the directorate: President James T. Hutchings withdrew from the board last April when he resigned from the corporation to go to Philadelphia, and A. M. Lindsay was removed by death. The only new member of the board elected was Mr. Todd. Tellers at the election were E. C. Scobell, F. H. Patterson and C. B. Evans. The board will organize in February at a meeting in New York City.

Business Outlook Brightening, Says Gas Co. Manager

Fort Wayne, Ind.—The foundry of the Western Gas Construction Company, of this city, employing 100 men, has resumed operations on a full-time basis after operation for some time on half-time. F. H. Beebe, general manager of the local plant, says that the business outlook is gradually brightening. "Our boiler shop has been working night and day," said Mr. Beebe, "and other departments, with the exception of the foundry, have been working steadily. We believe that the plant has passed through the worst period of depression."

Natural Gas Plant for Kaw City

Kaw City, Okla.—The citizens of Kaw City, the fifth town in size in Kay County, are getting ready to have their own natural gas system. They inaugurated the movement Aug. 20, when they voted $16,800 in bonds for the purpose of constructing and equipping a natural gas system to be owned, operated and controlled exclusively by the town. No votes were cast against the bond issue. Following that action the City Council is now performing the preliminaries for the immediate issuance of the bonds so that work may start on the construction of the plant. In the district east of Kaw City, where the Marland Company has a big gas well on the Bertha Hickman allotment, the city expects to negotiate for its supply.

Los Angeles Gas Has Big Extension Plans

Los Angeles, Cal.—Los Angeles Gas & Electric Corporation has been authorized by the State Railroad Commission to issue and sell $1,000,000 of its 6 per cent preferred stock. The proceeds are to be used to defray the cost of additions and extensions to the company's system made necessary by the growth of the city of Los Angeles and the territory served.

The company estimates that in 1921 it will be called upon to expand for additions and extensions approximately $5,183,470. This building program is made necessary by the fact that the natural gas supply available to the company is inadequate to meet demands, creating the necessity for building up a reserve capacity, both gas and electric, to meet peak conditions.

Springfield to Buy Gas Co.

Springfield, Ill. — Purchase of the Springfield Gas & Electric Company has been decided upon by the City Council to forestall the threatened closing of the company's plant on March 10. Use of the police power to compel continued operation is not contemplated.

The method of arbitration is all that is delaying an agreement. Negotiations this week, it is expected, will result in a decision of that point. Attempts toward that end, which on the city's part have slackened lately, were revived by the company's warning that its service would cease March 10.

The city has refused to renew the company's franchise.

Adamson Now Makes Tanks and Arc-Welded Products

The Adamson Manufacturing Company, East Palestine, Ohio, has added a new department for manufacturing all kinds of storage, pneumatic and pressure tanks, welded pipe, battery casings, evaporators, condensers and a large line of arc-welded products.

Augusta Gas Company, Facing Bankruptcy, Asks Relief

Atlanta, Ga.—The State Railroad Commission has been called upon to hear an unusual kind of application.

Recently an application from the Augusta Gas Light Company was granted allowing an increase of 10 cents per 1,000 cu. ft. on gas. Officials of the company are now here with the request that the commission allow them informally to lay before it certain financial and statistical data which will show that the rate allowed is not sufficient, and, unless the commission will permit a still further increase certain collapse faces the company after Feb. 1. The rate allowed by the commission is $1.85 per 1,000 ft. and the company declares it cannot live on a rate less than $2.10 per 1,000 ft.

The situation as presented by the officials, President L. I. Pallitt, General Manager F. L. Marshall and Secretary M. M. May, is that the company has certain fixed charges and interest charges to meet on the first of February, and these cannot be met unless funds can be raised. Under the present rate the company is unable to raise the necessary funds and, in the absence of some immediate relief receivership is starting the company in the face.

No action has yet been taken by the commission but it is probable that an order will be handed down by the commission before Jan. 31.

Tampa Gas Company Elects Officers

Tampa, Fla.—Routine business was transacted and a board of directors and officers for the ensuing year were elected at the recent annual meeting of the stockholders and directors of the Tampa Gas Company. The meeting was held in the office of Peter O. Knight, attorney for the company.

The officers elected were: John Gribbel, president; David J. Collins, vice-president and treasurer; Roscoe Nettles, secretary and manager; J. D. Shattuck, consulting engineer, and Peter O. Knight, attorney.

The following were elected to the board of directors: John Gribbel, David J. Collins and Peter O. Knight.

Correspondence

The following letter is self-explanatory:

ELECTRIC BOND & SHARE COMPANY
SEVENTY-ONE BROADWAY
January 20, 1921.

AMERICAN GAS ENGINEERING JOURNAL,
150 Nassau Street, New York.

Dear Sir:

Our attention has been called to an article on page 40 of your issue of Jan. 8 headed "Rate Increase to Peoples Gas Light Denied."

We know very well that you had no intention of doing injury to the gas industry in this article, but we are fearful that inadvertently you have done so.

You state that the special counsel for the city in gas litigation "estimated that the immediate saving to gas consumers from the decision was $7,500,000 a year." You also say, "The consumers also were benefited indirectly by the part of the commission's ruling which establishes the valuation of the company's property for rate-making purposes." You go on to say that the commission fixed this valuation at $85,000,000, whereas the company had presented figures placing the maximum valuation of the property at $156,000,000 and its minimum worth at $114,000,000.

You know better than most publications the serious condition the gas industry of the country is in, and unquestionably you are willing to do what you can to bring relief to the industry, as your publication is one of its representatives. What we are fearful of is that this news item in your publication, being a representative of the gas industry, will be quoted by those people who do not wish to see any relief granted gas companies.

You accept, without dispute, the comment of the special counsel for the city to the effect that there will be an immediate saving to gas consumers, and you also make the statement that the consumers also were benefited by the commission's valuation of the company's property. Permit us to say that you might have added, in justice to the company and the industry, that this immediate saving was merely apparent, and that while the consumers might believe that they were being benefited by having the valuation of the company's plant reduced they actually were not being benefited, inasmuch as the credit of the company was affected by reason of this low valuation being placed upon the company's property.

By the same logic, if the gas rates in Chicago should be cut in half the consumers would benefit even more than they will by the present ruling of the commission.

We all know, however, that if the rates should be cut in half the company undoubtedly would be placed in the hands of a receiver and service to the public would be seriously affected, if not stopped entirely.

The only way in which any community can be benefited by a decision of a commission is by that decision being such as to give the company sufficient rates, based on a proper valuation, as will so establish the credit of the company in question as to permit it to go into the market and bid for capital on proper terms with which to make extensions and improvements to its plant. No public is ever benefited by being served by a bankrupt public utility company or one that is merely keeping a few steps ahead of receivers.

We trust that you will accept in good faith our comments on the manner of your presentation of this news item.

Yours very truly,

E. B. LEE,
Statistician.

Cities Service Co. Dividends

Cities Service Company has declared the regular monthly cash dividends of ½ per cent on the preferred stock, the preference B stock and the common stock, and also a regular monthly dividend of 1¼ per cent on the common stock payable in common stock at par, all dividends being payable March 1 to stocks of record Feb. 15.

Gas Sales Association Meets

The Gas Sales Association of New England held its monthly meeting in the Boston City Club Jan. 13, with President H. J. Pettingell, Jr., of Pawtucket, R. I., presiding and about 100 members and guests attending. Among the speakers were L. B. Crossman, of Boston; Fred Butler, of Greenfield, and Howard Smith, of Quincy.

Association Formed by Pacific Service Employees

Modesto, Cal.—Organization of the San Joaquin section of the Pacific Service Employees Association was perfected at a recent meeting in the city hall called by Charles S. Northcutt, division manager of the Pacific Gas & Electric Company with eighty-four members present. The delegates came from the five counties making up the San Joaquin section which are Amador, Calaveras, Tuolumne, Stanislaus and San Joaquin Counties. The San Joaquin section is one of the eleven great divisions of this corporation employees' association in which more than 2,000 hold membership.

The meeting was opened by Mr. Northcutt, who explained the purpose of the association, a policy of self help and co-operation between employee and employer and the Pacific Gas & Electric Company. After dealing with the benefits and possibilities for greater service, to themselves as well as the change for larger social relations, he introduced R. W. De Valle, assistant attorney of the legal department in the general offices at San Francisco. As the representative of the central association De Valle bade the new association welcome to the "big family" of employees and stated his belief in the future of the San Joaquin association.

With the election of officers C. R. Gill of Modesto was chosen chairman and took charge of the meeting. The election of the other officers then followed with these results: J. H. Flagg, vice-chairman, Stockton; H. A. Walker, second vice-chairman, Stockton; V. Handley, secretary-treasurer, Modesto, and M. Reiss, assistant secretary-treasurer, Modesto. Constitution and by-laws were adopted and the meeting adjourned.

A series of meetings in the district will be held throughout the year, probably once a month, with an open meeting to which every other employee in the State is invited on one of the occasions. One such meeting is to be held by the Sacramento section on Jan. 29, to which every employee that can get there is invited.

Consolidated's 1920 Report Shows Deficit of $5,692,000

(*Continued from page* 108.)

the 7-cent rate expired July 1. Thereafter it was unable to obtain a contract for any period until the latter part of December, when it made a contract for the delivery of gas oil in 1921 at the same price and upon the same terms as the Consolidated Company. During the last half of 1920, and at the present time, other gas companies, in and near the City of New York, have been paying for gas oil contract prices ranging from 12 to 14 cents a gallon.

Gas Sales Increased 11.72 Per Cent

The gas sales of the Consolidated Gas Company increased during 1920, as compared with the previous year, 2,176,671,300 cu. ft. or 11.72 per cent. In 1919, there had been an increase in gas sales of 3.04 per cent as compared with the previous year.

Its gas sales and those of its allied gas companies in the borough of Manhattan increased during the year 3,204,485,100 cu. ft. or 12.55 per cent as compared with an increase of 3.01 per cent in 1919.

In the borough of the Bronx the increase during 1920 in the volume of sales amounted to 423,509,300 cu. ft. or 8.77 per cent as compared with a loss of 1.20 per cent in 1919 below the previous year.

The combined gas sales of the Consolidated Gas Company and its allied companies in the boroughs of Manhattan, the Bronx and Queens and in Westchester County, amounted to 4,201,900,000 cu. ft. more in 1920 than in 1919, a gain of 12.46 per cent as compared with a gain of 2.08 per cent in 1919 over the previous year.

The total number of gas meters supplied by the Consolidated Company and its affiliated companies in use at the end of 1920 was 997,251 and of electric meters 462,061.

The combined sales of gas of the various companies during the year were 37,676,872,000 cu. ft., an increase over the previous year of 12.48 per cent.

The taxes charged against the earnings of the Consolidated Company and its allied gas and electric companies during the year amounted to $7,620,497.28, as compared with $7,747,265.41, charged against the earnings of the preceding year. Aside from the Federal income tax and the capital stock tax, the taxes assessed against the properties and operations of the companies increased $315,746.98 in 1920 over 1919. The decrease in the Federal income tax, due to decreased earnings of both the gas and electric business, was $293,565.36, and the decrease in the capital stock tax was $148,949.75.

There were expended during the year for additions to, and extensions of, the producing and distributing plants of the various gas and electric companies the sum of $27,033,137.78.

At a cost of $8,535,565.20 for repairs and $1,665,975.13 for renewals or a total cost of $10,401,540.30 all of these gas and electric properties have been maintained in excellent repair and at the highest possible point of operating efficiency, thus insuring a uniformly satisfactory quality of gas and electricity and their economical production and distribution.

Reorganizing Gas Company

Conneaut, Ohio. — Reorganization of the Northeastern Oil & Gas Company has been completed and M. B. Daly, Cleveland, closed the deal for sale of the stock to local interests.

The new board of directors, elected at a referendum of 1,000 gas consumers who have subscribed stock, named officers as follows: President, F. B. Dunn; vice-president, A. W. Peltin; treasurer, H. A. Gleason, and secretary, W. S. Abbott. The reorganization was effective at midnight Dec. 31.

This transaction is the culmination of several months of endeavor on the part of the Chamber of Commerce to provide means of saving the city's diminishing gas supply.

The chamber's gas committee, composed of F. B. Dunn, H. A. Gleason and John Cupples, conceived the plan of the gas consumers forming their own company owing to the fact that Mr. Daly obtained permission from the Public Utilities Commission for the Northeastern Oil & Gas Company to discontinue service in all of Ashtabula County save to the Ashtabula Gas Company, which supplies the city of Ashtabula.

Consumers of Jefferson, Kingsville and North Kingsville joined with Conneaut consumers in subscribing for stock to buy out the Northeastern stockholders.

Mr. Daly and his associates were paid $100,000 cash toward a price of $245,000 put on the property by Mr. Daly, notes being given for the balance and the stock given in trust to Mr. Dunn and Mr. Gleason until paid for.

The property is listed on the tax duplicate at $450,000, and includes thirty-five miles of main pipe lines connecting municipalities and the distributing plants in all the communities served, including Conneaut, Jefferson, Geneva, Kingsville and North Kingsville.

With the Ashtabula Gas Company buying wholesale from the Northeastern, and distributing plants in the other municipalities owned by the Northeastern, the entire county is now turning to Conneaut for its natural gas supply.

The new board has authorized its officers to negotiate for an increased gas supply wherever it is for sale.

Besides the wells it already owns in the county, the company is negotiating for gas in the Madison field and from new wells owned by another company in the Austinburg field.

Wells owned by other companies and abandoned a number of years ago because of low price when the pressure dropped may also be reopened.

City councils of both Conneaut and Jefferson have passed ordinances granting increases in the price to consumers of from 36 cents to $1 per 1,000 cu. ft. for the first 5,000, $1.25 for the second 5,000 and $1.50 for all over 10,000.

Geneva is expected to pass a similar ordinance. The Ashtabula City Council several weeks ago granted the Ashtabula Gas Company a similar schedule of rates.

Entire U. G. I. Issue Sold

Philadelphia, Pa. — The entire issue of the United Gas Improvement Company's $7,500,000 of 8 per cent two-year notes, offered last week by Drexel & Co. and Harris, Forbes & Co. at 99.45, to yield about 8.30 per cent, were disposed of quickly. The purpose of the issue was to provide funds to meet a like amount of notes which will mature on Feb. 1. The company's net assets on Dec. 31 were valued at more than $95,000,000, or twelve and one-half times the par value of the notes.

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Smithsonian Deposit

Of all the automatic water heaters that will be sold this year, ten thousand will be Kompaks, representing a saving to the gas companies of over three hundred thousand dollars through the elimination of extra meters and services.

That ideal Kompak service, "hot water fast as cold," assures satisfied customers. The small gas demand of a Kompak reduces your peak load, and increases your main capacity, permitting big automatic water heater sales without burdening your mains.

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Consolidated's 1920 Report Shows Deficit of $5,692,000

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the 7-cent rate expired July 1. Thereafter it was unable to obtain a contract for any period until the latter part of December, when it made a contract for the delivery of gas oil in 1921 at the same price and upon the same terms as the Consolidated Company. During the last half of 1920, and at the present time, other gas companies, in and near the City of New York, have been paying for gas oil contract prices ranging from 12 to 14 cents a gallon.

Gas Sales Increased 11.72 Per Cent

The gas sales of the Consolidated Gas Company increased during 1920, as compared with the previous year, 2,176,671,300 cu. ft. or 11.72 per cent. In 1919, there had been an increase in gas sales of 3.04 per cent as compared with the previous year.

Its gas sales and those of its allied gas companies in the borough of Manhattan increased during the year 3,204,485,100 cu. ft. or 12.55 per cent as compared with an increase of 3.01 per cent in 1919.

In the borough of the Bronx the increase during 1920 in the volume of sales amounted to 423,509,300 cu. ft. or 8.77 per cent as compared with a loss of 1.20 per cent in 1919 below the previous year.

The combined gas sales of the Consolidated Gas Company and its allied companies in the boroughs of Manhattan, the Bronx and Queens and in Westchester County, amounted to 4,201,900,000 cu. ft. more in 1920 than in 1919, a gain of 12.46 per cent as compared with a gain of 2.08 per cent in 1919 over the previous year.

The total number of gas meters supplied by the Consolidated Company and its affiliated companies in use at the end of 1920 was 997,251 and of electric meters 462,061.

The combined sales of gas of the various companies during the year were 37,676,872,000 cu. ft., an increase over the previous year of 12.48 per cent.

The taxes charged against the earnings of the Consolidated Company and its allied gas and electric companies during the year amounted to $7,620,497.28, as compared with $7,747,265.41, charged against the earnings of the preceding year. Aside from the Federal income tax and the capital stock tax, the taxes assessed against the properties and operations of the companies increased $315,746.98 in 1920 over 1919. The decrease in the Federal income tax, due to decreased earnings of both the gas and electric business, was $293,565.36, and the decrease in the capital stock tax was $148,949.75.

There were expended during the year for additions to, and extensions of, the producing and distributing plants of the various gas and electric companies the sum of $27,033,137.78.

At a cost of $8,535,565.20 for repairs and $1,665,975.13 for renewals or a total cost of $10,401,540.30 all of these gas and electric properties have been maintained in excellent repair and at the highest possible point of operating efficiency, thus insuring a uniformly satisfactory quality of gas and electricity and their economical production and distribution.

Reorganizing Gas Company

Conneaut, Ohio. — Reorganization of the Northeastern Oil & Gas Company has been completed and M. B. Daly, Cleveland, closed the deal for sale of the stock to local interests.

The new board of directors, elected at a referendum of 1,000 gas consumers who have subscribed stock, named officers as follows: President, F. B. Dunn; vice-president, A. W. Peltin; treasurer, H. A. Gleason, and secretary, W. S. Abbott. The reorganization was effective at midnight Dec. 31.

This transaction is the culmination of several months of endeavor on the part of the Chamber of Commerce to provide means of saving the city's diminishing gas supply.

The chamber's gas committee, composed of F. B. Dunn, H. A. Gleason and John Cupples, conceived the plan of the gas consumers forming their own company owing to the fact that Mr. Daly obtained permission from the Public Utilities Commission for the Northeastern Oil & Gas Company to discontinue service in all of Ashtabula County save to the Ashtabula Gas Company, which supplies the city of Ashtabula.

Consumers of Jefferson, Kingsville and North Kingsville joined with Conneaut consumers in subscribing for stock to buy out the Northeastern stockholders.

Mr. Daly and his associates were paid $100,000 cash toward a price of $245,000 put on the property by Mr. Daly, notes being given for the balance and the stock given in trust to Mr. Dunn and Mr. Gleason until paid for.

The property is listed on the tax duplicate at $450,000, and includes thirty-five miles of main pipe lines connecting municipalities and the distributing plants in all the communities served, including Conneaut, Jefferson, Geneva, Kingsville and North Kingsville.

With the Ashtabula Gas Company buying wholesale from the Northeastern, and distributing plants in the other municipalities owned by the Northeastern, the entire county is now turning to Conneaut for its natural gas supply.

The new board has authorized its officers to negotiate for an increased gas supply wherever it is for sale.

Besides the wells it already owns in the county, the company is negotiating for gas in the Madison field and from new wells owned by another company in the Austinburg field.

Wells owned by other companies and abandoned a number of years ago because of low price when the pressure dropped may also be reopened.

City councils of both Conneaut and Jefferson have passed ordinances granting increases in the price to consumers of from 36 cents to $1 per 1,000 cu. ft. for the first 5,000, $1.25 for the second 5,000 and $1.50 for all over 10,000.

Geneva is expected to pass a similar ordinance. The Ashtabula City Council several weeks ago granted the Ashtabula Gas Company a similar schedule of rates.

Entire U. G. I. Issue Sold

Philadelphia, Pa. — The entire issue of the United Gas Improvement Company's $7,500,000 of 8 per cent two-year notes, offered last week by Drexel & Co. and Harris, Forbes & Co. at 99.45, to yield about 8.30 per cent, were disposed of quickly. The purpose of the issue was to provide funds to meet a like amount of notes which will mature on Feb. 1. The company's net assets on Dec. 31 were valued at more than $95,000,000, or twelve and one-half times the par value of the notes.